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MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA

VOLUME III JANUARY, 1934 NUMBER 1

ACCIDENTS AND INJURIES*

A COMPARATIVE STUDY OF THEIR CAUSES AMONG VARIOUS GROUPS

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If one would attempt to make an exhaustive study of the subject of accidents and injuries he must of necessity cover an extensive and widely varied field, for accidents and injuries are to be found along every path of constructive endeavor and to a greater or lesser extent in every walk of life. The literature is overflowing with material written for the purpose of showing how to avoid the loss of life or limb, and the conservation of property has been the topic over which human intellect has pondered for centuries. The insurance companies who carry casualty risk are ever on the alert to familiarize themselves with details pertaining to the habits, occupation, environment and physical condition of the prospect, governing the premiums accordingly and accepting or rejecting as the case may be. Numerous fraternal organizations protect the members by accident and death benefit insurance and large corporations quite often automatically take out a policy on each employee in order to defray the expenses of injury and offset the probability of suit.

CAUSATIVE FACTORS

But accidents and injuries seem to happen when apparently every known precaution has been put into effect to prevent their existence. Individual temperament, defects in eyesight or hearing, carelessness, improperly adjusted or faulty machinery, alcoholic intoxication, poor roads, inclement weather, improperly constructed building material, lack of attention and failure to obey orders, the thoughtlessness of youth and childhood, confusion in moments of stress or emergencies, are all factors which at times lead to accidents.

In every-day life among so-called sane or normal people, the criminal is ever present, and crime in all its protean manifestations is forever being suppressed. In his book entitled "Crime and Criminals," Dr. William A. White reminds us that crime is due to a disturbance of the emotions. He further states that back of every event of a psychological nature, there can be found other events out of which it grew and which give it meaning. Acts follow one another logically and no appeal from an intellectual standpoint has much effect on disordered mental functioning. Some malefactors, however, rate high on the mental tests, but as crime in itself is an indicator of poor judgment and lack of forethought, the commission of such is evidence that impulse or emotion was uppermost in consciousness. In some criminals it would seem, however, that there is a constant struggle between the ego ideal and the unconscious historic past with its instinctive cravings. Webster gives as his definition of crime, "The omission of a duty commanded or the commission of an act forbidden by a public law: A violation of a public right or the rights of an individual." Thus, crime is always a source of injury to others no matter how trivial or serious the act may be. Again, as stated by White, if we consider that the fundamental instinctive drives that move man to action are love, hate and guilt, I think it may be shown that under the heading of crime almost any conceivable accident or injury may happen, be it corporal or mental. Love as an ideal is the theme of poets, artists and musicians, but where no reciprocation is returned, happiness is often attained in some form of sublimation. Ambition may lead to forgetfulness and the ego is satisfied by constructive or creative activity. But the emotions have the capacity for a multiplicity of utilizations, and the spurning of love may be the precipitating factor of suicide, homicide, infanticide or a host of other antisocial acts. Hate, as we know, is the ambivalent of love. Egoistic in its bitterness, how often has it attained the pinnacle of destruction and satisfied the sadistic by deeds of violence; how often indeed has this same drive been the instrument of humiliation and injured feelings. Guilt, with the often accompanying conflict of emotions, may bring about a mental state from which relief can only be secured by self destruction or a flight from reality in a psychosis. On the other hand, however, crimes have been committed with a deliberate purpose, in the hope that punishment will be meted out and the inward pressure relieved. Then again, religion may solve the problem and the monastery or cloister take the place of prison walls.

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* Read before the Section on Nervous and Mental Diseases of the Society, December 7, 1933.

Fear and rage each play a part in the production of accidents and injuries for when reason is entirely overshadowed by such influences, responsibility is cast to the winds. It is true that man through the process of evolution has reached a high plane of civilization and culture, yet he is not immune to the defects in his own make-up, and the thin veneer which he presents to the world is easily shattered when emergencies arise. Man has formed society by necessity, as illustrated by the various trade unions, who despite their ideals and principles have often been the cause of considerable physical violence.

ACCIDENTS IN THE DISTRICT OF COLUMBIA

Turning now to the chief subject at issue in this paper, I hope to convey some idea of the accidents and injuries occurring among the public at large as compared with those met with in some of the hospitals for the insane. During the year 1930 the population in the District of Columbia was estimated as 486,869. The annual report of the Health Officer for the fiscal year ended June 30, 1932, showed that the death rate for the calendar year 1931, and by this I mean deaths from external causes, was as follows:

Accidents, accidental poisoning, falls, burns, firearms, infanticide, skull fracture, explosions, etc.:

White	555
Colored	239
Total	794

Included in this number were suicides:

White	112
Colored	15
Total	127

Among the suicides, death was brought about by the following means:

White:	*Cases*
Codein poisoning	1
Sodium cyanide	1
Strychnine poisoning	2
Veronal poisoning	3
Carbolic acid poisoning	2
Potassium cyanide	1
Irritant poisoning	1
Mercuric chloride	1
Lysol poisoning	4
Inhalation of illuminating gas	34
Monoxide gas poisoning	3
Hanging by the neck	10
Drowning	5
Firearms	30
Stab wounds	5
Jumping from Taft Memorial Bridge	3
Jumping from buildings	6
Colored:	
Lysol poisoning	1
Inhalation of illuminating gas	4
Drowning	1
Firearms	5
Jumping from Taft Memorial Bridge	2
Jumping from buildings	2

Included in this number also were homicides, the death toll being 29 white and 48 colored. The means of destruction were classified as follows:

	Cases
White:	
Firearms	17
Stab wounds	2
Inhalation of illuminating gas	1
Septic abortion	2
Drowning	2
Fracture of skull	5
Colored:	
Firearms	32
Cutting	9
Traumatic assaults	7

Classifying the above from the standpoint of sex, there were in the group:

	Cases
White males	21
White females	8
Colored males	38
Colored females	10

During the year 1932 the statistics for the District of Columbia show that the microanalyst handled for the Police Department in connection with crime detection, 104 cases including murder, death by falls, collision while intoxicated, drowning while intoxicated, suicides by gas, gunshot cases, hanging while intoxicated, drug cases, rape, abortion, death by drinking polluted river water, 2 cases of practicing medicine without a license and 1 case of violation of the drug law.

It might be of interest at this point to note that during the year 1931, according to the Metropolitan Life Insurance Company, 33,000 people were killed and 1,000,000 injured in automobile accidents. In the Statistical Bulletin which this company issued during October, 1933, the following comments were made: "Homicide in its wide prevalence throughout the United States presents one of the unsolved social problems of the country. Why should the homicide rate in our white population be 3 times as high among us as across the border among our neighbors in Canada, and 10 or 11 times as high as in England? The correct answer is not as yet forthcoming, although it would not be difficult to say why Nevada has the highest rate among white persons, viz., 16.5 per hundred thousand, while the New England states have a very low homicidal rate. As might be supposed, however, homicide is mainly an urban problem, as rural areas show a uniformly lower rate.

From the Emergency Hospital in this city with a bed capacity of about 250, through the courtesy of the Superintendent I have secured the following data:

Number of emergency cases for comparative purposes:

1931	14,363
1932	16,682
1933	18,221

Number of ambulance calls made during the year June 1, 1932, to July 1, 1933—8,240.

As a number of cases received at the Emergency Hospital and some other hospitals in the District of Columbia are the aftermaths of automobile accidents, I quote the following which I have received from the Major and Superintendent of the Metropolitan Police:

DATE	DEATHS	MINOR INJURIES	PROPERTY DAMAGE	MINUS *	TOTAL NUMBER OF ACCIDENTS
July, 1932	11	292	287	42	548
August, 1932	6	255	263	46	478
September, 1932	11	307	312	47	583
October, 1932	12	360	403	41	734
November, 1932	13	348	368	35	694
December, 1932	8	334	377	41	678
January, 1933	6	314	469	29	760
February, 1933	7	267	409	29	654
March, 1933	4	304	429	35	702
April, 1933	7	323	397	41	686
May, 1933	6	386	428	69	751
June, 1933	3	330	366	40	659

* More than one person injured in the same accident.

Total deaths were 94, minor injuries 3,820, property damage 4,508, minus 495, making a grand total of accidents during the fiscal year of 7,927. The above will show that while the death rate may be very slightly decreasing, the remainder of the figures are about the same throughout the months from July 1, 1932, to and including June 30, 1933.

ACCIDENTS IN THE ARMY

I am indebted to Lieutenant Colonel George F. Lull, M.C., United States Army, for his assistance in securing information concerning accidents and injuries in the military service, the salient points of which I will mention, together with some remarks from a paper entitled, "Automobile Casualties" written by the Colonel for the Military Surgeon in December, 1932. From the annual report of the Surgeon General, United States Army, 1932, we learn that during 1931 there were 623 deaths among officers and enlisted men, this being the highest rate since 1920. Of these, 289 resulted from external causes. A survey of causes during the 20-year period excluding 1917 to 1920, inclusive, and ending with 1929, showed that suicide was the leading cause in 16 of the 20 years and tuberculosis in the remaining 4. The fatalities from automobiles, it was said, had increased so greatly during the past 2 years, that deaths from this cause headed the list. In a large number of such cases, faulty driving brought on the fatality, since excessive speed often caused the cars to leave the road, more especially when passing around curves. The report for 1931 discloses that there were 1,851 admissions to hospitals in the service during that year as a result of automobile accidents, together with 1 motorcycle accident and 6 auto collisions with railroad trains. Only a very small percentage of the men involved were on duty at the time of the accident, and the great majority of mortalities resulted from privately owned or hired cars. A report from the Bureau of Census revealed that although the accident rate from automobiles in the Army during 1930–31 had increased materially, that for the civil population remained practically stationary. Of course, as set forth by Lieutenant Colonel Lull, there are more automobiles in use today than there were 10 years ago, but this factor alone does not account for the increase in accidents. With reference to the Air Corps, the Colonel writes, there are constant efforts being made to decrease the flying hazard by perfecting the airship and by reducing the personnel deficiency to a minimum through careful physical examinations combined with constant observation of pilots. As a result of this, the number of casualties has been reduced. Thus, during the 5 years ending December 31, 1930, the crash fatality rate among aviation officers was less than one-half as great as during the 5 years ending December 31, 1925. In the annual report from the Navy, submitted in 1932, it was stated that the total death rate in 1931 was 391. Of these, 216 were due to traumatism, 81 of which resulted from automobile accidents, while the remainder included explosions aboard ship, anti-aircraft gun explosions, target practice mishaps, earthquakes, drowning, submarine accidents and the like. As in the Army, however, a very great percentage of injuries and casualties resulted from motor vehicle accidents and the great majority occurred when the men were absent from command. As might be surmised, nevertheless, in the Navy the leading cause of death was given as drowning, the rate being given as 35 per 100,000.

ACCIDENTS IN PUBLIC SCHOOLS

During the school year, 1931–32, there were 140 mentally retarded pupils examined in the District of Columbia, and 97.1 per cent were found to have some physical defect. It might also be well to add that 82 crippled children, 51 white and 31 colored, were enrolled in schools for cripples who would be liable to almost any type of accident or injury if left to their own resources.

ACCIDENTS IN INSTITUTIONS FOR THE MENTALLY DERANGED

In the annual report submitted by the Department of Mental Hygiene of the State of New York from July 1, 1930, to June 30, 1931, it was stated that at the beginning of the fiscal year there were on the books 52,030 patients with mental disease in the civil state-hospitals, 1,861 in the hospitals for the criminal insane and 2,605 in private licensed institutions, making a total of 56,496. The admissions for the year, including transfers, numbered 15,839 in civil hospitals, 230 in hospitals for the criminal insane and 785 in private institutions, making a total of 16,854. The cases discharged from the civil state-hospitals, exclusive of transfers, numbered 5,565. Of those 2,236 were pronounced recovered, 1,362 much improved, 1,180 improved, 630 unimproved and 147 not insane. In the Craig Colony for Epileptics there were on the books at the beginning of the year, 1,777 patients, 100 of whom were on parole. During that year 8 patients were discharged as recovered, 23 improved, 67 unimproved and 1 non-epileptic, making a total of 99. There were, however, also 18 deaths. In the 4 State schools there were 9,046 pupils at the beginning of the year. The discharges were 395 improved, 137 unimproved. There were 13 licensed institutions for the feeble-minded also carrying a total of 425 patients. The institution for defective delinquents at Napanoch, caring for male patients over 16 years of age, charged with crime, at the beginning of the year contained 772 patients. The number of accidents and injuries reported and investigated in the State institutions throughout New York was given as 1,042. There were 532 among the men and 510 among the women. In the hospitals for the criminals, 25 men and 1 woman were injured; in Craig Colony, 43 men and 27 women; in the State schools, 55 males and 26 females; and in the private institutions 46 men and 15 women. In all these institutions, death followed the accidents in 43 men and 22 women. All cases where doubt as to the cause of death existed were reported to the coroner. These included 14 suicides among the men and 2 among the women.

As to the accidents and injuries which have occurred at St. Elizabeth's Hospital with a patient population of a little less than 5,000 to date, during the period from January to September, 1933, inclusive, the figures classified according to the various services are as follows:

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.
Group 1—Male:									
Howard Hall	7	2	11	9	4	4	4	2	2
Detached	24	24	17	22	11	11	11	6	1
West Side	14	23	24	29	27	12	19	17	14
Group 2:									
Richardson Group	7	3	11	6	8	4	7	8	13
Receiving Male	3	6	0	2	3	1	8	4	6
Medical and Surgical	4	6	10	5	19	16	2	9	10
R Building	8	10	12	9	15	9	22	14	8
Group 3—Female:									
Women's Service	14	8	18	12	20	9	14	10	13

Total men 624
Total women 118

As the Medical and Surgical Department is the central receiving unit of the hospital, in a report from October, 1932, to September, 1933, I found that such injuries as fractures, dislocations, severe lacerations and contusions, with an occasional emergency case from the outside, were by month as follows:

	MEN	WOMEN
October, 1932	5	3
November, 1932	8	7
December, 1932	5	8
January, 1933	5	3
February, 1933	4	4
March, 1933	6	1
April, 1933	5	4
May, 1933	6	0
June, 1933	5	1
July, 1933	2	5
August, 1933	3	2
September, 1933	2	1
Total	56	39

Grand total 837

As to employees I may say that during the past 3 years 1,800 injuries have been reported among this group, making an average of about 600 per annum. During the past 25 years I believe that 4 also have met deaths at the hands of patients. In the year 1922 the annual report of the Superintendent of this hospital showed the number of minor injuries to patients and employees to be 520, including colored and white of both sexes. The number of patients here during the fiscal year was given as 3,900. In 1923, the injuries were 736, the patient population being 3,982. In 1924, the injuries totaled 179, but the patient population had risen to 4,207.

The Prevention of Accidents

The question naturally arises—what is being done to prevent, or at least reduce, the number of accidents and injuries? In civil life the education of the masses, especially the younger generation through instruction in the public schools; and in this connection the Boy Scouts and patrol boys seem to be serving a very useful purpose. Then again, the building inspectors and traffic bureaus throughout this and other countries are ever on the alert to enforce the existing regulations and devise new ones in the interests of safety. Modern construction and invention have accomplished wonders in the conservation of life and property, but the human mind does not remain stagnant and improvements along many lines are being brought to light almost every day. In every organization a record should be kept of all accidents and injuries, each specific case should be investigated and the responsibility fixed upon the party or parties at fault so that those involved may learn, through experience, the folly of repetition. The National Safety Council, Inc., with offices in the Civic Opera Building, 20 North Wacker Street, Chicago, Illinois, organized for the safety of people at work, on the street and in the home, is conducting a very effective campaign in the Engineering Department of the United States Army among 20,000 workers employed on the rivers, harbors, and inland waterways. This educational organization, through the distribution of the Safety Magazine, issued monthly, together with the displaying of posters in conspicuous places and the placing of notices in the pay envelopes of employees and enlisted men, is forever striving for the cause and promoting the ideal by meetings, discussions and constructive propaganda. As might be expected, of course, the service is also open to industrial organizations, private or governmental, for the benefit of employees.

As a sound mind in a healthy body is one of the greatest assets to mankind, I shall devote the few remaining pages of this paper to suggestions for the prevention of accidents and injuries met with in hospitals for the insane. As stated elsewhere in these pages, this class is governed almost entirely by emotional swings, as it would appear that judgment or discretion do not seem to have much weight in conduct reactions among psychotics. It is necessary, therefore, that new and different action patterns be established if possible along hygienic and constructive lines. A positive transference on the physician, by those not too deteriorated to understand, is of material assistance, as irritability is reduced, more contentment brought about and quite often hope awakened. One must not forget also the proper lines of approach in the various forms of mental disorders and bear in mind the reactions usually to be expected. Many patients appreciate cleanliness, extension of privileges and a more congenial social atmosphere, the granting of which often eliminates quarrels and injuries which might otherwise have occurred. The cafeteria system recently established at this institution has been gratefully accepted by many patients and in my opinion is a very valuable step in the right direction. The careful selection of prospective employees cannot be overestimated, and instruction under competent superiors may produce very suitable material. The attendant or nurse should be among the patients, should be assigned to a ward long enough to know those entrusted to his charge, and be taught how to make suitable groupings according to certain traits and behavior reactions which he may observe. He should be shown how a patient may react to an hallucinatory experience, how a paranoid may project upon some entirely unsuspecting or innocent party, or how an epileptic in his impulsive anger may attack with very little warning or provocation. Overcrowding among patients has been the cause of many accidents and injuries, and when such a situation arises, selection in transferring is the only logical course to pursue. Accidents and injuries may often occur in large congregate dining rooms during the rush of meal hours, but this disagreeable feature may to some extent at least be offset by strict attention to duty on the part of the attendants. Skin infections by the irritation which some produce are often the etiological factors in the production of quarrels, and it is, of course, the duty of the physician and nurse to see that such conditions are promptly treated. Hydrotherapy in the form of packs, showers and tub baths has done much to quiet disturbed patients, and by this means many accidents and injuries are avoided, and often general improvement is noted. In my experience, patients who are occupied seldom quarrel, and I believe, therefore, that occupation in some form most suitable is one of the best therapeutic agents in bringing about improvement or effecting a cure. Some patients have, however, shown dangerous tendencies, even going so far as to assault one of their associates or the attendant in charge over them. For this reason it is most imperative that the physician not only make very careful selection in the type of person employed, but he should see that each is properly clothed and is physically able to perform the character of work assigned. Indiscretion on the part of employees should be immediately corrected, and no patient should be needlessly overburdened because of the indolence or indifference of the one responsible. The establishment of the various amusement halls, beauty parlors and the Red Cross have contributed to the betterment of hospital life for patients, since they create an atmosphere of expectation and enjoyment. The close scrutiny of all patients' mail matter sent out from any institution is of vital moment, since there are some types of individuals who in their efforts to gain publicity or notoriety do not hesitate to make false statements which in some cases precipitate unnecessary investigation and annoyance to officials and personnel. Many persons have been benefited through the work of life adjustment centers and rehabilitation clinics, and I believe that these constructive units are of prime value to those who seek the aid they offer.

In conclusion, I do not hesitate to say that many important points bearing on the reduction of accidents and injuries may not be included in this article, but I trust nevertheless that time, study and observation will lead the way to a better understanding of the problem.

VOLVULUS*

A Review with an Illustrative Case

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and
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Examination of the literature reveals no comprehensive review of this subject since the clinical lecture on volvulus by Power, delivered at St. Bartholomew's Hospital, April 26, 1916. The malady, however, is by no means a newly recognized one, as evidenced by a quotation from the writing of Fienus (Hurst) (A New and Needful Treatise of Spirits and Wind Offending Man's Body, 1668), in which he says "So the excrements being by degrees very dry, stop the passage against themselves and the wind, and cause the colick often, but convolvulus sometimes, and other great symptoms." Nevertheless, interest, as evidenced by volume of writing, has been active only in the past 10 years.

Volvulus, as defined by Power, is a twisting of the intestine upon its long axis until there is sufficient interference with the blood supply to cause strangulation unless relief is afforded. The necessary factor is a congenital or acquired defect in the intestinal attachment allowing of a free mobility.

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* Read before the Society, November 15, 1933.

STATISTICS

From 1899 to 1915, 25 cases were operated on at St. Bartholomew's Hospital. Of these 14 men and 11 women, 21 died and 4 recovered. From St. Thomas' Hospital, Corner and Sargent, reporting volvulus of the cecum, the more benign type, reported 57 cases, of which 19 recovered after operation and 38 died, 21 postoperatively. Muller, writing of volvulus of the iliac colon states that 1 out of 40 cases of all acute intestinal obstruction is caused by colonic volvulus. He adds that volvulus and intestinal bands are rarely seen together. Deaver and Magoun, reporting from the Lankenau Hospital, had 5 cases in 12 years; 3 males, 2 females, 2 operative deaths. From the above figures there is a mortality, after operation, ranging from 40 to 52.5 per cent; in both operated and nonoperated cases of 66 per cent.

ETIOLOGY AND PATHOLOGY

Although volvulus has been demonstrated in the new-born, it is so rare at that age that such occurrence may be classed among surgical curiosities. Volvulus is most frequently a malady of early and middle adult life, and, as such, permits the theory that it is concomitant with either prolonged moderate constipation or obstipation of shorter duration. As Power says, there is required "a loop of bowel lying less closely packed than usual in the abdominal cavity, a loaded bowel and irregular peristalsis." If we accepted the frequently used theory, the intestine, in its endeavor to move a large and obstinate fecal mass, develops an irregular peristaltic action, unusual in timing and increased over normal limits in intensity. There is thus produced an increased drag upon the mesentery, which may be congenitally long or may be increased in length by the persistent taxis of the over-rigorous peristalsis. The added weight of the large intestinal content, and of the intestines themselves, must be added to the forces tending to produce increased mesenteric length, as shown by the fact that volvulus in adults is most common at the cecum or sigmoid, in infants at the jejunum or ileum. Quoting Power again, he believes that a long-axis twist of less than one and one-half full turns is usually capable of spontaneous relief, although cases are reported in which one turn, or one and one-half turns, have been adequate to strangulate sufficiently to produce gangrene. Certainly operative and postmortem examination tend to show that natural efforts to relieve turns of over one and one-half merely augment the volvulus. The direction of the torsion, clockwise and counterclockwise, seems a matter of mechanical force only, and no preponderance of one or the other can be elicited from case reports.

SYMPTOMS AND SIGNS

Volvulus may be sudden and unexpected in onset in persons whose past life has been of quite ordinary health, but chronic constipation, frequently with attacks simulating acute obstruction, is more the rule, as evidenced by the reports of Brocq, Hurst, and Muller. That volvulus can be chronic in nature, and that frequent subacute attacks can be sustained without need of operation, is brought out notably by Fernström in his article on chronic volvulus, especially of the sigmoid flexure.

Muller states that volvulus is very frequent among Russian peasants. Deaver reports 5 cases seen at the Lankenau Hospital in the last 10 years, 3 of which were males and 2 females. In reports of 6 cases collected by us, all patients were males. That the history of injury to the abdomen by sudden blow or fall frequently appears is significant and may fit in with the apparent preponderance of volvulus in males.

Age incidence, as Power brings out, shows volvulus to be essentially a product of early and middle adult life, with old age, childhood and infancy figuring in decreasing frequency in the order named. Deaver's 5 cases occurred between the ages of 20 and 64 years. The patients in 6 cases previously mentioned by us vary from 15 to 60 years in age.

A history of abdominal operation is obtained in a relatively large number of cases. Pelle reports total volvulus of the jejunum following peritonitis resulting from a rupture of a duodenal ulcer. This had been treated by closure of the ulcer and gastro-enterostomy. Cabot removed 29 cm. of small bowel in a boy operated on 3 times previously for traumatic cyst of the pancreas. The volvulus appeared 10 months after the third operation.

The onset is usually fairly acute, coming without warning, or it may follow some injury to the abdomen. If the process is low down in the alimentary canal, progress is steadily down hill, but if the cecum, or worse still, the small bowel, is involved, there may be an emptying of the distal bowel to relieve intra-abdominal tension and mask symptoms. There is persistent local pain, with exacerbations dependent upon the vigor of peristaltic action. Degree of pain, however, is moderate at the start and accounts for the number of cases thought at first to be simple "stomach-ache." When sufficient retrograde peristalsis is present, vomiting ensues, is persistent and rapidly becomes fecal in nature.

The general appearance of the patient, unless the case is seen when quite far along, does not indicate marked systemic shock. Pulse, temperature and respiration remain relatively unchanged. There is distention limited at first to the area over the involved bowel. There is no rigidity until muscular stasis is sufficient for serosal lymphedema and exudation of fluid. Pain on pressure is not marked prior to peritoneal involvement.

Diagnosis

Conditions to be ruled out are acute perforation of the stomach or duodenum, kidney pathology, obstruction by a band, strangulated hernia, acute hemorrhagic pancreatitis and thrombosis or embolism of the mesenteric vessels. For practical purposes, all that is necessary for a working diagnosis is "acute abdomen," and it is upon the rapidity with which this is made and surgical intervention obtained, that the prognosis depends.

Illustrative Case

The following case is presented for consideration not because it is rare, but because it offers several points of interest:

A woman, aged 55 years, complained of pain in the abdomen with marked distention. Her trouble began on December 4, 1930, at which time she became suddenly sick, but except for this little could be ascertained, since the patient contradicted herself frequently. Apparently her illness began following her breakfast, about 9 o'clock. She was very uncomfortable all day and was brought to the hospital in an ambulance the following morning, December 5, at 5:30. She stated that she was never constipated. She had had no previous attacks of this nature. She had vomited several times prior to entering the hospital, but after admission there was no active nausea. She did not complain of a great deal of pain but had rather an anxious look. She was rather small and underweight, and her attitude was anxious. Her hair was quite gray and she gave the impression of being mentally deficient. She was first seen lying in bed on the morning of her admission, at which time her temperature was 99.4°F., her pulse rate 82, and her respiratory rate 20. The blood pressure was 124/74. The leukocyte count was 13,300 with 86 per cent polymorphonuclears. The abdomen was markedly distended. A definite intestinal pattern could be seen below the umbilicus. On auscultation the abdomen was fairly quiet, there being no gurgling or tinkling sounds. Repeated enemas were given with very little or no results, the returns being practically clear with very little gas. During the first day in the hospital she received 3 doses of pituitrin followed by high enemas with very little more result than previously obtained. In the afternoon she seemed somewhat improved and her abdomen, if anything, was less distended. An operation was contemplated but put off because conditions did not seem serious and surgical interference was not deemed urgent. The following day she was much the same. Two more doses of pituitrin were given followed by enemas but with much the same results as before. Operation was decided upon and she went to the operating room about 5:00 P.M. A right rectus incision was made under spinal anesthesia, and on opening the peritoneal cavity, the large bowel was found much distended and seeming to fill the entire abdomen. The serous coat was so stretched that cracked areas appeared, about the width of 2 fingers. A band could be seen twisted around the large bowel but this on further investigation was found to be a loop of intestine. The cecum with the appendix was lying on the left side. The incision was then enlarged and the whole of the distended bowel removed from the abdomen. It was then noted that the distended loop of bowel was the sigmoid which was rotated on its own axis, with about one and one-half turns. The ascending colon was lying across it producing what might be termed a double volvulus. The rotated gut was easily reversed and some gas immediately escaped. The cecum was then put back on the right side. The small intestine seemed not to be distended at all. A rectal tube was passed and considerable fecal fluid removed. Resection seemed inadvisable, so the gut was brought up into the wound for a first stage Mikulicz. The serous coat on the outer side was sutured to the serous coat for about 3 or 4 inches so as to make a web. The presenting loops were then attached to the peritoneum with several interrupted sutures and the abdominal wound was closed in layers with quite a large piece of bowel left outside. The patient was sent to the ward in good condition. The next day the bowel was removed with very little discomfort to the patient. A clamp with blades about 3 inches long was applied to the web 12 days later and remained on for about 10 days, at which time an opening had been cut through between the 2 loops. The fourth and last stage was done on January 7, 1931, which was 32 days after the first operation.

Under local anesthesia, the gut was freed from scar tissue and dissected down to the peritoneum. The edges of the bowel were freshened and sutured transversely with 2 rows of fine catgut. The muscles and fascia were then closed over this. The wound healed with very little drainage. The patient was up and about the ward 10 days later. She was discharged on January 31, 1931, apparently in good condition.

In looking back from the postoperative side we can understand some, and the absence of some, of her symptoms. The obstruction being in the large bowel, the vomiting was a late symptom. It also accounts for the lack of positive signs on auscultation. Also, the blood supply to the affected loop was not interfered with, so that toxemia was diminished.

TREATMENT

That volvulus is becoming more recognized as a definite possibility to be considered in all cases suspected of intestinal obstruction is evident from the increasing amount of literature on the subject appearing in recent years. That its onset and progress are gradual and non-spectacular is only more reason that care should be immediate, thorough and complete. Error to the extent of being over-zealous to operate is far better than the opposite extreme, for, as Power says, "if you are contented with a diagnosis of stomach-ache, colic or cramp, give a purgative or worse still, opium, and then wait a while before you send for the surgeon, your patient will almost certainly die and his blood is on your head."

Operative preparation need not be described, since it conforms in detail to that of other abdominal conditions. Adequate exposure is necessary since the possibility of double volvulus cannot be ruled out without examination of the entire gastro-intestinal tract. Localization of the volvulus is followed by detorsion, and subsequent procedure is dependent upon the state of nutrition of the involved loops of intestine. General rules for surgical care of intestinal obstruction hold for volvulus, and no one method stands paramount. Deaver advises, in sigmoid cases showing sufficient hypertrophy of bowel and mesentery, sigmoido-sigmoidostomy over a tube passed per rectum. If resection is necessary, he prefers a two-stage procedure, cecostomy, with drainage as far as possible of the intestinal contents, and Mikulicz type of removal of the gangrenous or pre-gangrenous intestine.

Generally speaking, the less done the better. If conditions will permit, detorsion and closure without drainage offers the best prognosis. If vascular stasis has been too marked, abdominal drainage, enterostomy, aspiration of the toxic intestinal contents, and removal of the damaged tissue by a method best suited to the patient's systemic reserve, are necessary steps. Postoperatively, all possible care should be taken to prevent added fatigue of intestinal musculature already weary with spasmodic peristalsis and distention, and in the later stages of return to active function no ground gained should be treated carelessly by lapse of dietary or eliminative therapy. The fluid intake should be kept large, chlorides forced and the urine checked. That one attack of volvulus predisposes to further attacks is by no means proven, but that volvulus itself is encouraged by prolonged constipation is certainly suggested by case histories, and, therefore, it is only careful therapy to insure a gentle but thorough and non-relaxing bowel régime for the postoperative volvulus patient.

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CLEIDOCRANIAL DYSOSTOSIS

REPORT OF A CASE

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This condition, which is also called osteodysplasia of the clavicles, cranial bones, and teeth was first reported by Morand in 1776. Barlow reported the second case in 1883. In 1898 Marie and Sainton called attention to its hereditary character and described it under the name of hereditary cleidocranial dysostosis.

Its hereditary character seems well established as is shown by the numerous cases recorded in the literature. Villaret and Francoz reported the case of a woman and 3 children who were all affected. Langmead reported 18 cases in 4 generations and observed 7 of them. McCurdy and Baer reported 9 cases in 3 generations and observed 5 of them. Leopold and Castrovinci in a recent article express doubt as to the indispensibility of heredity. They reported 1 case in which it could not be demonstrated and called attention to 2 cases of McBride and 1 of Cocker and Sims in which no familial or hereditary history was obtainable.

PATHOGENESIS

The clavicle is the first bone of the body to ossify. According to McMurrich 2 centers appear for each bone at about the sixth week of development. At first the clavicle is represented by a bar of tissue, in which the 2 centers of ossification appear, 1 corresponding to the sternal, the other to the acromial end of the bone. These are at first united by a bridge of the original tissue. Fawcett suggests that a third center of ossification arises which causes union of both ends. Failure of one or more of these centers could easily give rise to the condition so far as the clavicle is concerned.

The reason for the failure in ossification is unknown. Various theories have been advanced, the most prominent being that it may be caused by amniotic bands, heredity, or antepartum injury or disease, particularly fetal rickets.

There is also delay in the transformation into bone of the membranous parts of the cranium. This is accompanied by excessive bone formation in those areas to which ossification has already extended, as if nature tried to compensate the unprotected membranous areas by increased bone formation in their immediate vicinity. As a result of these changes the skull in practically all cases is abnormally large and has 3 bosses on each side.

CLINICAL FEATURES

The main features result from defects in the ossification of the membranous bones, manifested most frequently by the clavicular defect which consists of an absence in whole or in part of one or both clavicles.

The type of clavicular deformity is well summarized in Fitzwilliam's tabulation of 60 cases:

	Left	*Right*
Both clavicles absent—6 cases		
One clavicle alone absent	2	0
One bone alone defective	1	3
Sternal end alone represented	23	27
Acromial end alone represented	1	2
Both portions present, but ununited	14	17
Both portions joined, but showing by angling, notching or arching, formation from 2 parts	5	2
Ligament prolonging inner end outward	13	11

This clavicular deformity results in a drooping aownward and inward of the shoulders which dssume the position familiar in fracture of the clavicle. The preternatural mobility of the shoulders characteristic of this condition, which permits them to be touched together in front of the patient, results from the clavicular defect. Freedom from disability in these cases shows that the importance of non-union of fracture of the clavicles is exaggerated. From a medicolegal standpoint the condition has importance because it simulates fracture of the clavicles with nonunion, and also because a minor degree of this condition may be indirectly responsible for fracture of the clavicle and its nonunion.

The next most frequent deformity, which results from a delay in the closure of the sutures and fontanels, is the formation of 6 bosses, 3 on each side of the skull corresponding to the frontal, parietal, and occipital bones. These remain separated by more or less deep sulci which represent the remains of the cranial sutures.

Other changes which occur frequently are: (1) Small stature, (2) large number of wormian bones in the sutures, (3) bridge of the nose sunken and facial bones small, (4) late and irregular dentition, (5) high arched palate, (6) long pointed fingers, (7) genu valgum, and (8) head large and brachysephalic.

Differential Diagnosis

The condition must be differentiated from: (a) Intra-uterine fracture, (b) traumatic fracture at delivery, (c) chondrodystrophia, (d) osteogenesis imperfecta, (e) fetal rickets, and (f) osseous syphilis. The greatest difficulty may be experienced in differentiating the condition from fracture, and as pointed out this may be of great importance from a medicolegal standpoint. The diagnosis in this case may depend on one or more of the subsidiary defects.

Report of Case

The history is probably of very little value because of the poor mentality of the patient, who was in the Psychiatric Ward at the Gallinger Municipal Hospital. He stated that one of his brothers was round-shouldered, but no other information as to the possible occurrence of the condition in other members of the family could be obtained. He has worked most of his life as a farm laborer. The patient was about 60 years of age, well developed and well nourished, 5 feet 10 inches tall. There was a deep sulcus in the midline of the forehead starting at about the level of the supraorbital ridge and extending back in the line of the sagittal suture to the lamboidal suture which was also represented by a less marked sulcus. The head appeared larger than normal and there were on each side 3 prominences separated from each other by shallow sulci. The lower jaw was large. The hard palate was arched and the alveolar border of the maxillae was V-shaped. The neck appeared longer than usual due to a marked drooping of the shoulders downward and inward. The development of the shoulder muscles was excellent and the patient was able to perform all the motions usual in the shoulder joint besides being able to touch the tips of the shoulders in front of him (fig. 1). No portion of the right clavicle could be seen, but on the left side a small bar of tissue about 7 cm. in length near the sternum could be seen and palpated, and a small portion could also be felt near the acromion. Except for rather long, pointed fingers the rest of the physical examination showed no abnormalities.

X-ray examination of the chest and skull was reported as follows by Dr. Lawrence S. Otell:

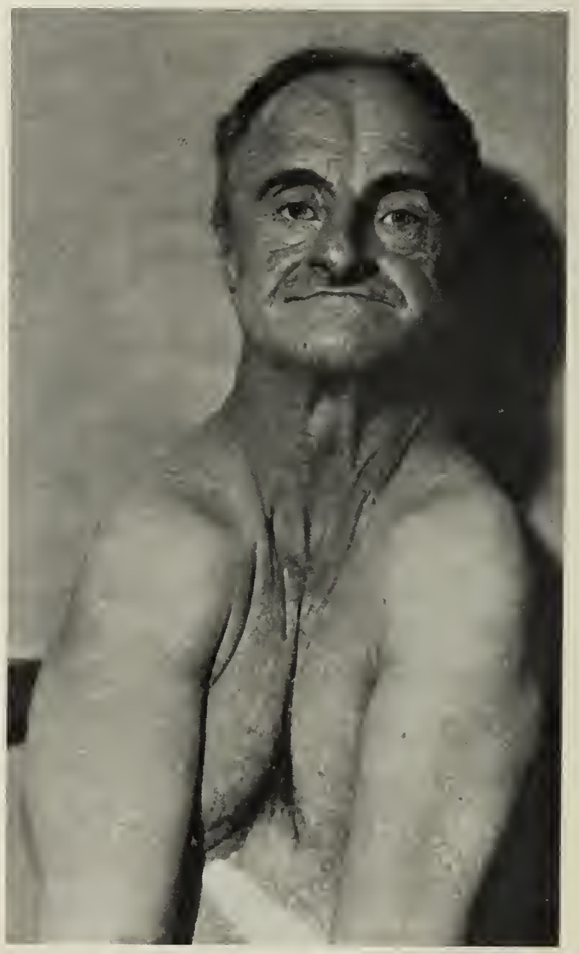

Fig. 1. Patient Holding Shoulders Forward

Examination of the bony thorax shows an oblique configuration of the ribs (fig. 2). The right clavicle is absent except for a small rudimentary sternal end. The remnants of the left clavicle consist of a rudimentary acromial end and a fragment of bone measuring 7 cm. in length near the sternal end. These fragments are separated by a distance of 4 cm. Both ends of the latter are spear-shaped, and the sternal end does not have the normal configuration. Examination of the skull shows the size and contour to be essentially normal. There is a diastasis of a portion of the frontal suture and a similar diastasis of the occipitomastoidal suture on both sides.

There is an elliptical defect on the posterior lip of the foramen magnum. A ridge of bony proliferation on the sides of the skull extends horizontally across the base of the skull from a point just anterior to the sella to the anterior portion of the posterior fossa. The sella is obscured by this shadow but appears to be normal.

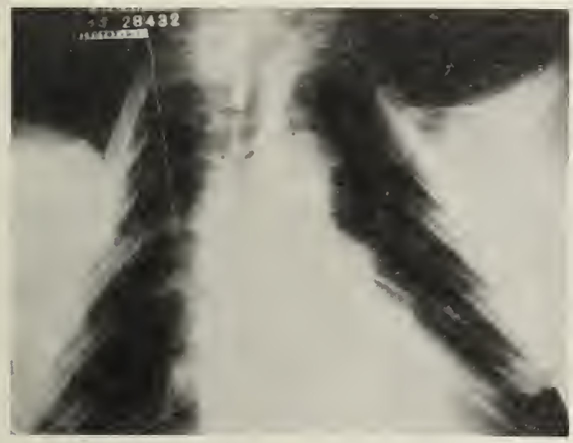

FIG. 2. CONGENITAL DEFECTS OF THE CLAVICLES

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CINCHOPHEN TOXICOSIS

RESULTS OF EXPERIMENTAL SUBACUTE AND CHRONIC CINCHOPHEN POISONING*

A. J. LEHMAN, PH.D. AND P. J. HANZLIK, M.D.

The important question is whether or not the reported hepatic injuries from cinchophen medication are properly to be attributed to a direct action of the drug when it is used in doses within therapeutic limits and conditions, including the intensive and often repeated doses for antirheumatic medication. From the negative experimental evidence, and from the fact that cinchophen has been used for years with known benefits in different conditions, notably in gout and rheumatic fever, it would seem that the ordinary medication with cinchophen is practically devoid of harm and capable of rendering benefits.

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* Extract from article appearing in the Archives of Internal Medicine, September, 1933.

The Fundamentals of Internal Medicine*

DISEASES OF THE HEART

(Continued from December, 1933)

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ETIOLOGIC TYPES OF HEART DISEASE

SYPHILITIC HEART DISEASE

Etiology.—Syphilis is an important cause of heart disease. The only syphilitic involvement of the cardiovascular system, however, of importance as far as the heart is concerned is syphilitic aortitis affecting the aortic valve and producing aortic regurgitation. Syphilitic myocarditis and gummata of the myocardium occur but are rare. Syphilitic heart disease is much more common in the southern states than in the northern, mainly because syphilis is much more common in the negro than in the white race. Syphilis is responsible for perhaps 25 per cent of heart disease in the South.

Usually the cardiovascular involvement by syphilis becomes manifest only years after the primary lesion has occurred, on the average between 15 and 20 years, although the spirochete has probably invaded the aorta much earlier. Syphilitic heart disease has its greatest incidence, therefore, in individuals between the ages of 40 and 50 years. While congenital syphilis may produce it, it is a far less common cause than acquired syphilis. Males are much more often subjects of cardiovascular syphilis than females (perhaps 5 to 1). Prompt and proper treatment of the original syphilitic infection is probably a good preventive of cardiovascular syphilis.

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* This is the third instalment of a treatise on Diseases of the Heart prepared to orient the older graduates of medicine in the changing concepts of diseases of the heart and to review the subject for younger graduates. Other instalments will follow until completion. If there is a demand for similar treatises on other systems of the body they will be forthcoming.

Physiological and Pathological Considerations.—The primary lesion is a mesaortitis with round-cell infiltration about the arterioles, principally of the media of the aorta but also of the adventitia. Sometimes the Treponema pallidum can be found in sections by specific staining methods. The intima becomes pale and wrinkled due to the destruction of the media beneath it. The aorta loses its elasticity, stretches and dilates. The first portion of the aorta is most frequently and most seriously involved. If an aneurism results it has no effect upon the heart unless by involving the aortic orifice it causes regurgitation. The aortitis itself usually extends down to the aortic valves and widens the commissures by causing adhesion of the cusps to the aortic wall. The valves are drawn upward and toward the wall of the aorta, so that while there is little obstruction to the egress of blood from the left ventricle, the valves can not close, and part of the blood flows back into the ventricle during diastole. The results of such a condition have already been described in the discussion of aortic endocarditis due to rheumatic infection. Before the aortitis involves the valves heart disease does not exist. Pathologic changes in the myocardium are rarely seen.

Sometimes the aortitis causes partial or complete occlusion of the orifice of one or both coronary arteries, which are located just above the aortic valves, without, however, causing sclerosis of the coronary arteries themselves. The result is angina pectoris or cardiac asthma.

Diffuse inflammatory reaction in the myocardium with spirochetes, syphilitic myocarditis, occurs rarely and is practically never diagnosed clinically.

Invasion of the heart by gummata is also rare. Occasionally a gumma involves the bundle of His and causes heart block.

Symptoms and Signs.—Before congestive failure sets in there may be no symptoms or only a dull aching in the aortic area. Angina pectoris or cardiac asthma may occur, however, before or after congestive failure has begun. Dizziness, light-headedness or even fainting may occur due to cerebral anemia. There may be considerable pallor of the skin.

Although aortitis without aortic regurgitation does not mean heart disease, the signs may be mentioned here as well as in the section on vascular disease. There is a systolic murmur at the aortic area with a loud, tympanitic aortic second sound and with or without evidence of dilatation of the first portion of the aorta. When regurgitation has occurred, a diastolic murmur is heard in the aortic area and transmitted down the left border of the sternum toward the apex, with maximum intensity at the fourth left costal cartilage. A functional mitral diastolic murmur (the Austin Flint murmur) is common. The peripheral signs are always present. These are, as with aortic regurgitation of rheumatic origin, a water-hammer pulse, a large pulse pressure, visible capillary pulsation, Duroziez's double murmur and throbbing of the large peripheral arteries and even nodding of the head.

Aortic regurgitation due to syphilitic aortitis and that due to rheumatic endocarditis are often difficult to differentiate clinically. The main points of difference are as follows:

1. The patient with rheumatic aortic regurgitation is usually considerably younger when the diagnosis is first made.
2. There may be a history of rheumatic infection in rheumatic aortic regurgitation.
3. The systolic aortic murmur of syphilitic aortic regurgitation is usually much louder than that in rheumatic aortic regurgitation.
4. The systolic pressure is usually higher and the diastolic lower in syphilitic aortic regurgitation.
5. The Wassermann and Kahn reactions of the blood are usually positive in syphilitic aortic regurgitation.

Arrhythmias are uncommon in syphilitic heart disease, as in aortic valvular disease of rheumatic origin.

Occasionally coronary arteriosclerosis occurs coincidentally in older patients.

The electrocardiogram shows usually only left axis deviation, the roentgenogram a large left ventricle and perhaps dilatation of the aorta.

Course and Prognosis.—After the diagnosis is made of syphilitic heart disease the average duration of life is 2 to 3 years. Once congestive heart failure sets in it is usually progressive, although it may be modified somewhat by treatment. Death may occur suddenly from angina pectoris or cardiac asthma. If proper antiluetic treatment is instituted before congestive failure occurs there is some chance of delaying the onset of failure.

HYPERTHYROID HEART DISEASE

Etiology.—Although actual heart failure due to hyperthyroidism is relatively rare, the cardiac manifestations are so prominent and the probability of cure if the heart is failing is so great that this form of heart disease is given prominence. In fact, this is almost the only form of heart disease which can be permanently cured. Rarely a goiter by its size alone causes cardiac embarrassment by arterial, venous or bronchial obstruction in the superior mediastinum. It is mainly excessive activity of the gland that produces cardiac difficulty. This occurs both in adenomatous goiter, which has become hyperfunctioning because one or more adenomata secrete normal thyroxine without check (toxic adenoma), and in exophthalmic goiter, in which the thyroid gland is secondarily stimulated to produce more and probably an imperfect thyroxine (hyperplasia). The former is more common in the goitrous districts, whereas the latter may occur with equal frequency in all sections of the country. Females are affected much more often than males (perhaps 4 to 1). The age at which adenomatous goiters become toxic is around 50 years, whereas the age period at which exophthalmic goiter is most prevalent is 35 to 45, although the latter may occur even in childhood.

Physiological and Pathological Considerations.—Hyperthyroidism produces the "over-demonstrative heart." There are tachycardia, throbbing of the vessels, a large area of precordial pulsation, loud heart sounds and apparent enlargement of the heart. These are not symptoms of heart disease, but merely manifestations that the increased amount of thyroxine in the myocardium as in all tissues has stimulated its metabolism and caused it to beat more forcibly and more rapidly. The minute volume output of the heart is increased, and consequently the heart is actually doing more work. The increased circulation rate is brought about mainly by the tachycardia, which alone can considerably increase the minute volume output, but also by an augmented force of the heart beat. In consequence of its extra work the heart undergoes moderate hypertrophy in time, but clinically it appears to be larger than it is because it is more than normally filled with each beat and because the precordial area of impulse is increased. The systolic blood pressure is usually moderately elevated because each beat of the heart is stronger, and the diastolic pressure is lowered because the peripheral arterioles are dilated due to the excessive amount of metabolites in and around them.

Although there is greater than normal dyspnea on exertion, this is not due to heart disease but to diminished vital capacity of the lungs and reduced reserve capacity of the heart, both because part of the normal reserve capacity is constantly being drawn upon. It is only when the dyspnea is out of proportion to this proportionate increase, and when congestion of organs has begun, that heart failure can be said to exist. Congestive failure is unusual, however, and it occurs only in older persons whose hearts have lost their youth or which are, in addition to the hyperthyroidism, burdened by hypertension or impaired by diseased coronary arteries, coincidental endocarditis, or chronic emaciation. Once congestive failure sets in it is similar to congestive failure due to any type of heart disease, except that the heart rate is more rapid and auricular fibrillation almost always present.

The heart may weigh 400 or 500 grams, rarely more. Except for some slight change in color and the presence of dilatation there is usually no abnormality either on macroscopic or microscopic examination.

Symptoms and Signs.—The symptoms of the underlying hyperthyroidism are usually to be found, although one is apt to overlook these because of the prominence of the heart disturbance. The thyroid gland may be nodular (adenomatous) or diffusely enlarged (hyperplastic). In the latter case there are often a bruit and thrill over the superior thyroid arteries. Also, in exophthalmic goiter there is either exophthalmos or a staring expression, but one must not forget that a similar appearance may be produced by severe dyspnea alone. The patient is usually considerably emaciated, weak and nervous. He may perspire profusely and complain of feeling warm. Palpitation of the heart may be a prominent complaint.

The pulse is rapid; if regular, it is usually from 100 to 150 per minute even at rest, and if irregular (auricular fibrillation) it is often over 150. The heart is enlarged and has a diffuse impulse, the sounds are loud, and there is often a systolic murmur at the apex or base or both. The systolic blood pressure is 140 to 150 mm. Hg. or more, and the diastolic often between 60 and 70. The signs of congestion of organs and edema of tissues are present. There may be orthopnea. Besides auricular fibrillation, paroxysmal auricular tachycardia and auricular flutter sometimes occur. The auricular fibrillation may be paroxysmal.

The fluoroscopic examination shows only moderate enlargement and dilatation, forcible heart action with a wide excursion between systole and diastole, and tachycardia or arrhythmia.

The electrocardiogram usually shows nothing abnormal except the tachycardia or arrhythmia.

The basal metabolic rate is usually high (over 30 per cent above normal, often more), but in very chronic cases it may not be greatly elevated. One must not forget either, that in the presence of dyspnea from any cause, the rate is often increased.

Course and Prognosis.—After congestive failure begins, it is usually progressive over a number of months, rarely years. If the heart is not too greatly damaged and compensation can be restored or nearly so by medical treatment, operative removal of a large part of the thyroid gland may restore the heart nearly to normal. If the decompensation cannot be greatly influenced by medical treatment, x-ray therapy of the thyroid gland may bring about improvement. If auricular fibrillation has been present before surgical or x-ray treatment is instituted, normal rhythm is quite likely to be restored.

CONGENITAL HEART DISEASE

Etiology.—Congenital heart disease is relatively rare. About half of the congenital defects of the heart are clinically unimportant in themselves, but almost all are potentially subject to that serious infection, subacute bacterial endocarditis. The cause of developmental defects of the heart is unknown except in the relatively few cases in which endocarditis is responsible. Certain defects are more common in males, viz., pericardial defects, primary dextrocardia, cor biloculare and triloculare (two-chambered and three-chambered heart), defects of the aortic septum, transposition of arterial trunks, anomalies of the semilunar valves and coarctation of the aorta. Patency of the ductus arteriosus is more common in females. Congenital heart disease is quite naturally discovered most often in infancy and early childhood. Many subjects of this condition die very young, the time depending upon the severity of the defect and the complication of infection.

Physiological and Pathological Considerations.—The most common defects are interauricular septal defects, interventricular septal defects, patency of the ductus arteriosus, pulmonary stenosis, anomalies of the cusps of the semilunar valves, coarctation of the aorta, transposition of the arterial trunks, and anomalies of the great veins. Combinations of defects are much more common than single defects. Defects of the septa, pulmonary stenosis and patency of the ductus arteriosus are abnormalities frequently associated with other lesions.

The period in embryonic life in which the abnormality of growth occurs determines largely the type of congenital heart disease. If the abnormality appears before the septa have formed the heart may have but one auricle and one ventricle (cor biloculare), if somewhat later, there may be two auricles and one ventricle (cor triloculare biatriatum), or less commonly two ventricles and one auricle (cor triloculare biventriculare). If the septa have almost completely formed, a defect in development may cause a permanent opening in the interauricular septum (patent foramen ovale, persistent ostium primum or persistent ostium secundum), or an aperture between the two ventricles (patent interventricular septum), most commonly in the anterior part of the septum just below the aortic valve. At about this stage the common truncus arteriosus may fail to divide completely and defects of the aortic septum appear. Transposition of the aorta and pulmonary artery may result from malposition of the aortic septum in relation to the interventricular septum, incomplete involution of the aortic part of the conus or reversed torsion of the ventricular bend of the embryonic heart. A failure in development of the conus arteriosus or infection of the conus or the pulmonary valve after they have formed results in stenosis or atresia of the infundibulum or pulmonary valve. Such a stenosis may appear early enough to be combined with failure of complete closure of the interventricular septum, so that the blood is diverted through the septal aperture into the aorta in a variable degree. A common combination is that known as the teralogy of Fallot, consisting of pulmonary stenosis, interventricular septal defect, dextroposition of the aorta and hypertrophy of the right ventricle. A rarer combination is the tetralogy of Eisenmenger, with dilatation of the pulmonary artery instead of stenosis. Coarctation of the aorta appears late in fetal life, and patency of the ductus arteriosus only after birth.

Maude Abbott has devised the best clinical classification of congenital cardiovascular disease. This is in part as follows:

1. *Cases without abnormal communications or shunts between the right and left sides of the heart, the acyanotic group.*

A. Less important group, consisting of simple dextrocardia, defects and diverticulum of the pericardium, anomalous chordae, supernumerary and bicuspid similunar valves, double auriculoventricular orifices, pure coarctation of the aorta (adult type), anomalies of the aorta, branches of the aorta, of the coronary arteries, of the pulmonary arteries, and of the great veins.

B. More serious group, consisting of ectopia cordis, primary congenital hypertrophy of the heart, pure subaortic or aortic stenosis, pure mitral stenosis, pure coarctation of the aorta (infantile type).

2. *Cases of arteriovenous shunt with possible terminal or transient reversal of flow* (*cyanosis tardive*). Arterial blood ordinarily enters the pulmonary circulation, and venous blood rarely enters the pulmonary circulation in this group, but cyanosis is always possible when some acquired lesion causes obstruction in the pulmonary circulation, or when the left ventricle begins to fail. This group includes patent ductus arteriosus, localized defects of the aortic septum (aorto-pulmonary communications), localized defects of the interauricular septum (patent foramen ovale, persistent ostium primum, persistent ostium secundum), and localized defects of the interventricular septum (maladie de Roger).

3. *Cases of veno-arterial shunt with persistent cyanosis* (*morbus ceruleus, maladie bleue*).

A. Cases with moderate cyanosis, including defect of the interventricular septum with dextroposition of the aorta, cor triloculare biatriatum, pulmonary stenosis with patent foramen ovale, tricuspid stenosis with patent foramen ovale, tricuspid atresia with defect of the auricular and ventricular septa and transposition of the arterial trunks.

B. Cases with marked cyanosis, including pulmonary stenosis with interventricular septal defect and dextroposition of the aorta and hypertrophy of the right ventricle (tetralogy of Fallot), pulmonary atresia with defect of the ventricular septum and dextroposition of the aorta and patent ductus arteriosus, transposition of the arterial trunks with defect of the interventricular septum and transposition of the aorta.

C. Cases with extreme cyanosis, including cor biloculare with transposition of the arterial trunks, persistent truncus arteriosus with localized defect of the interventricular septum, cor biloculare with persistent truncus arteriosus, complete transposition of the arterial trunks without septal defect and with patency of the ductus arteriosus, pulmonary atresia with closed ventricular septum but defective auricular septum and patent ductus arteriosus, mitral atresia with aortic aplasia and defect of the auricular and ventricular septa and patent ductus arteriosus.

Symptoms and Signs.—The minor defects may not give rise to symptoms. Other defects may cause dyspnea of varying degrees and especially on exertion. This dyspnea may occur paroxysmally. Cough is common in cases with marked dyspnea, but hemoptysis is rare. As indicated in the classification above, cyanosis is a prominent sign with those defects in which there is a constant mixture of more than 30 per cent of venous blood with the arterial. Cyanosis may not develop, however, for some time, perhaps years, after birth. Dilatation and slowing of the circulation in the capillaries of the skin and mucous membranes is an additional factor in the production of cyanosis. In the less serious forms of communication between the two sides of the heart cyanosis appears only when there is insufficient oxygenation of blood in the lungs, as in heart failure, or when increased resistance to blood flow in the pulmonary circulation causes reversal of flow between the two sides of the heart, which ordinarily is from left to right. Clubbing of the fingers (Hippocratic fingers) and toes occurs often in the cases with chronic cyanosis, but it develops later than the cyanosis.

In the cyanotic cases polycythemia often develops as a compensatory mechanism for carrying more oxygen away from the lungs. In these cases particularly cerebral symptoms may at times occur, such as weakness, faintness, dizziness, syncope, convulsions, coma, transient paralysis and headache.

Malnutrition with pallor and faulty physical or even mental development may occur in some cases due to deficient systemic and cerebral circulation of blood.

Examination of the heart may reveal enlargement, but often it does not, since the right side of the heart only may be enlarged. A systolic or continuous thrill is common when there is a communication of small or moderate size between the two sides of the heart, but in large septal defects there may be neither thrill nor murmur. When present the murmur is almost always systolic. Partial or complete heart block is sometimes present congenitally with septal defects.

The blood pressure in general tends to be low. With patency of the ductus arteriosus the diastolic pressure may be low. With coarctation of the aorta an interesting condition exists (v.i.).

The roentgenogram may aid in diagnosis of some of the lesions, showing hypertrophy of the right ventricle, enlargement of the pulmonary artery in patency of the ductus arteriosus, etc. The electrocardiogram may show right axis deviation and large P waves, especially in pulmonary stenosis, and inversion of all waves in lead 1 in true dextrocardia, a finding which is pathognomonic.

The main features of some of the more common congenital cardiac defects are as follows:

Patency of the Interauricular Septum

Normally the foramen ovale closes soon after birth by means of its valvelike structure. In many cases it also becomes sealed up, but in perhaps 20 per cent a probe may be inserted through a slit between the valves. In the occasional case in which the foramen remains widely patent there are often other anomalies of the heart. A murmur may be heard in only about 25 per cent of the cases of uncomplicated patency. It is presystolic or systolic and heard over the upper or midsternal region. Emboli may go through the opening, usually from right to left, thus getting from one circulation to the other (paradoxical embolism). This lesion is not incompatible with long life.

A large opening may occur in the lower part of the interauricular septum just above the auriculoventricular valves (persistent ostium primum), in the upper part (persistent ostium secundum), or the whole septum may be lacking. The two former are not incompatible with long life, and even with the latter life may go on for years. Not infrequently mitral stenosis is associated with the septal defect, and this lesion may be diagnosed clinically. There are no specific signs of the septal defect itself.

PATENCY OF THE INTERVENTRICULAR SEPTUM

This relatively common defect is usually also associated with other lesions but may occur singly (maladie de Roger). There is no cyanosis except terminally. There is often a loud, blowing murmur heard best just to the left of the middle of the strenum which may be associated with a localized thrill.

THE TETRALOGY OF FALLOT

This is the commonest combination of defects in patients reaching adult life with cyanosis. There are pulmonary stenosis or atresia, interventricular septal defect, dextroposition of the aorta and hypertrophy of the right ventricle. The patients present cyanosis, clubbing of the extremities, polycythemia, dyspnea and dyspneic attacks, and sometimes syncopal attacks. The physical signs in the heart are mainly those of pulmonary stenosis, viz., a rough systolic murmur and thrill over the precordium with maximum intensity over the pulmonary area and weak or absent second pulmonic sound. On x-ray examination the heart is seen to have the shape of a boot (coeur-en-sabot).

PERSISTENT PATENCY OF THE DUCTUS ARTERIOSUS

This lesion may be uncomplicated by other defects and be found in adults as well as children. There are often attacks of transient cyanosis and dyspnea. A characteristic murmur of the humming or so-called "machinery" type throughout systole or the whole cardiac cycle is often present, with maximum intensity in the first or second interspaces at the left of the sternum and usually accompanied by a prolonged thrill. Percussion and roentgenogram reveal marked dilatation of the pulmonary artery in the older cases.

COARCTATION OF THE AORTA

This rare condition of congenital stenosis of the aorta below the origin of the great vessels is of clinical interest. There is hypertension in the upper extremities and hypotension in the lower, the reverse of normal. The arteries of the neck and of the arms and often the intercostal arteries pulsate excessively. A roentgenogram may show erosion of the lower edges of the ribs due to excessive action and tortuosity of the intercostal arteries. There may be a systolic and sometimes a diastolic murmur.

Course and Prognosis.—These naturally depend upon the particular defect or combination of defects, their severity and the occurrence of complications. Some lesions may be tolerated to old age, others are incompatible with life or except for a few hours or days. Sudden death may occur, congestive failure may set in, or subacute bacterial endocarditis may develop at the site of one of the defects. In the last case death results from septicemia and is frequently preceded by embolic phenomena.

(*To be continued*)

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

DERMATOSES AFTER NOSTRUMS

Cosmetics, using the term in its broad sense, are a well known source of damage to many skins on which they are used. In a high percentage of cases this is probably a true example of allergy, but in many other instances substances contained in cosmetics are so irritating that an allergic response need hardly be called upon as an explanation. The following facts should be of interest to many.

1. Permanent waves almost invariably cause dryness of the hair upon the sides of the head with a subsequent alopecia.

2. Substances used in wave sets may be very irritating. I have seen terrific response from flaxseed. Likewise various "anti-kink" preparations sold to negroes may cause a severe dermatitis of the scalp or face.

3. Hair dyes have been known for years as a prolific source of dermatitis. Paraphenylenediamine is the basic substance of most of these dyes and is a notoriously toxic substance. I have also seen irritation upon the hands of workers in the henna dyes as well as upon the scalp of patients to whom these dyes were applied.

4. Hair tonics containing resorcinol are not well borne by many persons.

5. The ordinary sulphide depilatories are irritating to many skins. The depilatories containing thallium have been responsible for many deaths. The X-ray as used by many beauty shops has given rise to chronic radiodermatitis in thousands of patrons.

6. Body or face powders frequently prove irritating. Apparently orris root is the responsible substance.

7. Cold creams, and the so-called skin foods, are badly borne by a few people.

8. Vanishing creams, which are really soaps, not infrequently cause a dermatitis.

9. A high percentage of freckle creams contain a large amount of mercury and may prove very irritating.

10. Soaps, especially the highly advertised ones, furnish dermatologists with a considerable amount of practice.

11. Occasionally a tooth paste will prove irritating to the lips of the user.

12. Phenolphthalein is well known as the direct cause of allergic phenomena.

13. I have seen 3 cases of acne develop very shortly after the ingestion of yeast, despite the claims of the foreign mercenaries.

14. Many of the coal-tar derivatives cause an urticaria-like eruption.

15. Quinine is another well-known drug that causes allergic manifestations.

16. Bromides and iodides are probably the remedies which frequently cause irritation of the skin.

17. The operation of face lifting may yield good results for the time being but in the long run is apt to be as deadly as the injection of paraffin.

H. H. Hazen, M.D.

TRANSACTIONS OF THE SOCIETY

Stated Meeting, January 3, 1934

The following were duly elected to membership:

Active Members

Elma Bebee Carr, 1029 Vermont Avenue, N. W.
J. Lloyd Collins, 1801 Eye Street, N. W.

Bernard J. Gurwin, 701 Maryland Avenue, N. E.
Robert E. Henderson, 1801 Eye Street, N. W.
Jerome John Krick, 3116 Dumbarten Avenue, N. W.
Emmett H. Markwood, 3220 Seventeenth Street, N. W.
Wilbur Wynn Martin, 1119 Buchanan Street, N. W.
William Albert Ryon, 29 Bryant Street, N. W.
Saul Schwartzbach, 1835 Eye Street, N. W.
Erwin Steinman, 3500 Fourteenth Street, N. W.
Howard Hamilton Strine, 1726 Eye Street, N. W.
Stephen Alloysius Yesko, 909 Sixteenth Street, N. W.

Associate Members

James E. Houghton, Naval Medical School
Felipe Andres Martinez, Georgetown University Medical School

Applicants for membership to be voted on in March, 1934:

For Active Membership

Wyrth Post Baker, Hahnemann Medical College—1930
Joseph Holmes Branson, Southern Homeopathic Medical College—1894
Marvin A. Custis, Hahnemann Medical College—1890
Henry Gilbert Hadley, George Washington University—1917
Stafford Wendell Hawken, Georgetown University—1931
Alma Fife Heath, George Washington University—1931
Sollie Katzman, George Washington University—1930
William Ellis Long, George Washington University—1929
John Bayne Marbury, George Washington University—1930
Raymond Wilkins Murray, George Washington University—1928
Antoine Schneider, Johns Hopkins University—1927
Allan Elliott Walker, Jr., University of Virginia—1930
Willard Beecher Walters, College of Medical Evangelists—1927
Robert Lomax Wells, University of Virginia—1930
William Norris Wooldridge, Georgetown University—1930

For Associate Membership

Hugh Osgood House, George Washington University—1928

Dropped, pursuant to certain provisions of Article V, Section 10 of the Constitution:

Active Members

Paul Eanet
H. R. Elliott, Jr.
John F. O'Brien
Murray A. Russell
Sam Lester Tabb

Associate Members

F. R. Brunot
H. J. Cooper
George B. Corey
Evelyn G. Mitchell
C. A. Ransom
W. M. Sweet
Bruce L. Taylor
Bryan P. Warren

Pursuant to action taken by the Society on this evening, the President was authorized and directed to appoint a committee which would include the services of Mr. F. A. Fenning, in the formulation of the Constitution and By-laws which would express the present Articles and Sections in proper form. The President appointed the following:

A. B. Bennett, Chairman
F. A. Fenning
Henry C. Macatee

FORTY YEARS OF MEMBERSHIP

An excerpt from the Constitution reads as follows: "members of the Society who have had forty years of continuous active membership shall be absolved from the payment of any further dues or assessments." The announcement is made with a great deal of pleasure that the names of the following members are added to the Society's Honor Roll:

Seniority Member		*Date of Membership*
138	John Henry McCormick	April 5, 1893
139	Oscar Addison Mack McKimmie	April 7, 1893
141	Frank Leech	April 9, 1893
143	James Ramsay Nevitt	April 11, 1893
144	Charles Massey Hammett	April 11, 1893
149	James Stuart	October 12, 1893
153	Henry Joseph Crosson	October 27, 1893

RECENT WORK OF THE COMMITTEE ON MEDICAL ECONOMICS

The Committee on Medical Economics through its various subcommittees is carrying on investigations along many different lines which are bringing together a large amount of information of great value to the medical profession and to the public. The investigations of the Committee into contract practice and medical activities of governmental agencies will reach a point in the near future when reports can be made to the Society. The coöperation of the entire membership of the Society is necessary in some of these investigations and it is hoped that every member will freely assist the Committee whenever requested, whether it be in reply to questionnaires or by personal appearance to testify before any of the subcommittees.

The Medical Society of the District of Columbia on December 6, 1933, adopted the following report of the Committee:

Relations of Physicians and Hospitals to the Community Chest

A. It has been shown that the medical profession gives free, or partially free, services to an amount greater than that of all other welfare contributions combined. In several large cities the amount of such medical contributions has been several times the amount raised for all charitable purposes.

B. Professional service is the only means of a physician earning a livelihood and such service represents a commodity just as definite as if the contribution were made in food, clothing or cash.

C. The physician has the undoubted right to give or withhold, where and when he chooses, but he has always been so unstinting where services were needed, that not only is the vast amount of his contribution to charity not generally known, or appreciated, but impositions have progressively occurred, and by some organizations, as well as individuals, this voluntary sacrifice has come to be looked upon as a right which may be demanded of the profession.

D. The relation of a physician to the patient is a personal one, remaining definitely a matter to be settled between the two, and no outside agency can be admitted as having any right to having a part in fixing this relationship.

E. The hospital provides the place and conveniences for the rendering of medical services by the physician. It can not, of itself, provide medical service, which is the sole right of the physician. On the contrary, to the extent that a hospital functions as a charitable institution, it is dependent upon its voluntary, and unpaid staff, for its ability to function at all; and, therefore, owes to its staff protection against imposition by patients not actually indigent; and to the extent that its facilities are purchased by its inmates, it owes the attending physicians protection against competition by itself as an institution.

F. It is one of the functions of the Community Chest to help those, temporarily or partially dependent upon outside assistance, to obtain hospitalization, when necessity arises. For the provision of the medical services it has made no contribution and so has no right to concern itself with the medical care.

G. The indigent are provided for by the Board of Public Welfare and their care is paid for by the taxpayer. The Chest has its duty to perform in hospitalizing the non-indigent, who need help. Such help should not be denied because of a patient's ability to pay some fee to the physician at the time of hospitalization.

H. The medical profession is properly sensitive to the divulging of diagnosis, both from the standpoint of ethics, and of the law, and is opposed to a diagnosis ever being given outside the hospital with identifying data.

Your committee, therefore, recommends that the Medical Society of the District of Columbia go on record as endorsing the foregoing principles, and that it adopt the following recommendations:

1. That the Medical Society of the District of Columbia denies the right and will not permit of dictation as to whether a medical fee will be charged or not, in any case in which Chest aid to hospitalization is given.
2. That in no case shall a diagnosis be divulged which in any manner indicates the identity of the patient.
3. That no hospital shall receive a patient, with or without Chest aid for a purpose other than hospitalization, or, in other words, as an institution, make any arrangement to provide medical care.
4. That if aid is denied any patient by reason of these factors or if any infraction of the principles above outlined shall occur, the matter should be brought to the attention of the Secretary of the Medical Society of the District of Columbia who will refer it to the proper authorities for investigation and action.
5. That the advice of the Medical Society of the District of Columbia should be sought by the Hospital Committee of the Community Chest before any decisions regarding purely medical affairs are promulgated.
6. That the Secretary of the Medical Society of the District of Columbia be instructed to mail copies of this report to the Community Chest, to the Superintendent of each hospital, and that it be published in the Medical Annals of the District of Columbia.

The following report of the Committee setting forth many fundamental principles and presenting a number of important recommendations was adopted by the Society at its stated meeting on January 3, 1934:

Relating to Community Hospitals

A. Community hospitals are civic enterprises, having a primary charitable motive, undertaken by philanthropic laymen who assume the financial obligation of providing place, equipment and personnel; and by philanthropic physicians who assume the obligation of providing medical care.

Such a hospital is a joint enterprise to render aid to ill, indigent persons; the lay supporters contributing time and money as such; the medical supporters contributing time and money in terms of professional service.

B. In order to provide hospitalization for the non-indigent such hospitals customarily maintain accommodation for the care of full-pay patients, as well as for the care of partial-pay patients, who pay for this service according to their ability.

C. In any of these types of hospitalization, however, the hospital as a corporation provides room, board, nursing and material, beyond which it has nothing to dispose of; at this point the medical staff enters the equation, as the essential element to make the service of a hospital whole and effective.

Physicians serve by virtue of appointment, the appointment following upon invitation to the physician and his voluntary indication of his willingness to serve.

D. The staff physician's services are essential to the charitable purpose of the hospital, and the acceptance of his appointment has a certain contract implication, viz., to perform gratuitously the professional service to make effective the hospitalization afforded gratuitously by the institution.

A correlative implication of the contract should be that if the institution is recompensed for its service to the patient, the physician should be entitled to recompense also, and in the same proportion, for, if the hospital owes it to its supporting public to make the load of charity as light as possible, it owes the same duty to its supporting staff. Otherwise, the effect is that the lay supporters of the hospital (whether individual, community chest, or other), whose contributions of money are derived from incomes or activities not interrupted by personal service to the institution, are relieved of part of their burden; whereas the medical supporters bear the entire burden of their contribution, while the making of an income is completely stopped while making the contribution.

E. This contribution to the hospital enterprise is not offset by any advantage offered by the hospital connection to the staff physician. His appointment is made upon his professional qualifications, which he has attained by his own efforts and before he is invited to serve the hospital. If it be said that the hospital lends prestige to the staff it is much more true that the prestige of the hospital depends upon that of its staff; and this fact is an additional, if imponderable, contribution of the professional partner in the enterprise.

F. It is generally recognized that among the by-products which hospitals should offer the community are its facilities for the teaching of interns, medical students and nurses. If it be said that the opportunity of teaching is an advantage to the staff, offsetting their contribution of services, the fact is that such additional service is a further gratuity to the hospital, as it relates to the interns and pupil nurses, and to the community as it relates to medical students.

From the above considerations, the conclusion is unavoidable that good faith requires a hospital to exercise the utmost care to ask gratuitous services of its staff for its charitable purposes only; and that, in consideration of its complete dependence upon the medical staff it should rigidly abstain from entering into competition with them by seeking any revenue from strictly medical services.

G. Hospitals, being corporations, their management and consequently their policies of all sorts are the proper and necessary prerogatives of their Boards of Directors. The organization of such Boards commonly has overlooked the fact that there are two necessary factors to make the institution effective, and the medical staff has usually not been represented. This has occasioned two undesirable results: (1) the appearance of policies prejudicial to the medical profession, because the influence and information obtainable from medical members has not been available; and (2) the development of the idea that the staff members are servants of the institution rather than essential partners.

H. It follows that the medical profession must insist upon proper representation on the Boards of hospitals, and must so realize their status as partners, rather than servants, that the rights of the profession shall be protected by such representation.

I. The medical profession can, it is believed, secure the acceptance of its duly adopted principles governing the administration of hospitals and dispensaries by the education of hospital boards with regard to these principles by staff members serving on such boards; indeed, much can be accomplished by well considered official communications setting forth the views of the medical profession upon questionable hospital practices proceeding from the medical staff of a hospital to its board.

Failing acceptance of said principles, or violation of them, by a hospital, the Medical Society of the District of Columbia can enforce them by its influence upon its members and control, complete and effective, can be had through hospital staffs.

K. It has come to the attention of your committee that certain evils have crept into the conduct of some hospitals, notably:

1. Inadequate investigation of recipients of charity.
2. Diversion or attempted diversion of partial- or full-pay patients to members of the staff.
3. The entering into contractual relations with individuals and with groups whereby medical service is offered by the institution and combined with the hospitalization.
4. A tendency to exploit the medical staff by utilizing their personal services, in other ways, to augment the income of the institution, thus chiseling into the livelihood of the medical profession.

It is, therefore, fitting and proper that the Medical Society of the District of Columbia lay down certain principles and enact a set of regulations which may not be violated if the approval of the Medical Society of the District of Columbia is to be retained.

L. Your committee feels that it is ethical for its physician members to serve in free clinics and wards maintained by approved hospitals, providing such charitable institutions receive no income based upon the services of such physicians.

M. No hospital is operated efficiently, or economically, if it fails to prevent diversion of its funds to the service of undeserving patients.

N. Loyalty of a hospital and its entire personnel to its medical staff is most commendable. However, it should not be carried to a point where it is detrimental to the interest of the private physician. The diversion of a patient by direct or indirect means, from any physician on the approved list of the hospital, to a staff member, by an institution, as a whole or by any member thereof, cannot be condoned by the Medical Society of the District of Columbia.

O. Hospitals which do not cooperate may be compelled to comply with regulations adopted by the Medical Society of the District of Columbia. If any hospital should refuse, within a reasonable length of time, to live up to the requirements of the Society, then all members of the staff of the hospital may be required to resign from such staff. Further, the name of the hospital refusing to cooperate may be published to the members of the Medical Society of the District of Columbia who, in turn, may be required to withdraw their support from that hospital. Finally, any hospital which, as such, should fail to live up to the requirements of the Medical Society of the District of Columbia, may be cited to the American Medical Association, as one which should no longer be regarded as a member of Class A, and consequently one whose interns would be without standing.

Any member of the Society who might refuse to cooperate may be disciplined by the Society by declaring him unethical and expelling him from membership which would in turn deprive him of membership in the American Medical Association, and constitute him an outlaw from the organized profession.

P. Your committee, therefore, makes the following recommendations:

1. That the general principles above outlined be ap-

proved by the Medical Society of the District of Columbia.

2. That no hospital shall be permitted to engage in any form of contract practice with any individual, or group of individuals, for any purpose other than that of pure hospitalization.
3. That no hospital shall offer, for a price, any medical service.
4. That in no case may a hospital charge a patient for other than the use of its facilities and material. No medical fee may be charged and retained by the hospital.
5. That emergency and accident cases may have first aid only, administered at the hospital and the physician selected by the patient must be immediately notified. In no case shall a patient, able to pay, be admitted to the service of a staff member without the request of the patient's own physician, if there be one.
6. That patients who are covered by compensation, health or accident insurance, cannot be considered as indigent.
7. That none but strictly indigent patients shall be admitted to dispensaries.
8. That no case, except in emergency, shall be admitted to a dispensary without a letter from a physician, local priest or pastor, welfare worker or other reputable citizen, to be followed by adequate investigation by the social worker of the hospital who shall be able to certify that the patient is known to be indigent.
9. That patients who have been discharged shall not later be re-admitted to a dispensary, without certification that their present economic condition is the same as on previous admission.
10. That, as a condition upon which members of the Medical Society of the District of Columbia may continue to serve on the staff of a hospital or dispensary, the institution shall be approved annually with regard to its fair practices.
11. That any infraction of these rules of the Medical Society of the District of Columbia be reported to the Secretary of the Society for investigation and necessary action.
12. That copies of this report be sent to every hospital and that it be published in the Medical Annals of the District of Columbia.

Relating to Workmen's Compensation, Industrial Medicine and Contract Practice?

The committee has made every effort to ascertain the state of feeling regarding the operation of the present law among all parties in interest, the employers, the employees, and the physicians. Among the employers it finds dissatisfaction with the law to be based, in the main, on the fact that several of the carriers have failed, leaving employers with unpaid claims for benefits and compensation, and, in some instances, have refused to write policies for certain employers. Some employers have also expressed dissatisfaction with the provisions or interpretation of the law which have resulted in denying to the employee the right to select his own physician, and a desire to see such provisions and interpretations so changed as to permit freedom of choice for the injured employee.

Among the employees, as represented and made vocal by the American Federation of Labor, the committee finds such dissatisfaction as to result in open rebellion. Spokesmen for the American Federation of Labor, with whom emissaries of the committee have held many conferences, inform it that the employees are bitterly and unalterably opposed to any denial of their freedom of choice in the matter of the physician who shall attend them in case of injury. They state that the employees are dissatisfied with the character of service and methods of the so-called compensation clinics. They also state that the employees are very resentful of the attitude of the insurance carriers with respect to their interpretation of the law, resulting in so many contests before the Deputy Commissioner.

As a result of the unrest and dissatisfaction among these two groups, the Society is informed by the committee that there will be introduced into the forthcoming session of the Congress of the United States a bill substituting an entirely new act for the present law. This proposed bill is to be drawn conjointly by attorneys representing certain groups of the employers and the American Federation of Labor, and is to have the whole force and power of the latter organization thrown behind it. From information in possession of the committee, which it is deemed inexpedient to make public at this time, concerning other powerful political influences that are in favor of the proposed legislation, it is of the opinion that the bill has an excellent chance of becoming law to the next session. In view of this fact the committee is pleased to be able to report that both the group of employers and the American Federation of Labor have not only expressed a willingness but a keen desire for the Medical Society of the District of Columbia to draw and incorporate in the bill their own medical section. For these reasons the Subcommittee on Workmen's Compensation has carefully studied the medical sections of the laws in several states and has had drawn by the Society's attorney, Colonel F. A. Fenning, what is believed to be an ideal medical section for legislation of this character. This will be submitted to you for your approval in a later portion of this report.

Among the membership of the Society the committee has found a very keen and widespread dissatisfaction with the operation of the Workmen's Compensation Law. This is based primarily on opposition to the interpretation and provisions of the law with respect to the denial of the right of the injured employee to select his own physician. But it has been greatly accentuated by a feeling that there has been a serious disregard for the established code of ethics of the American Medical Association shown by many physicians engaged in industrial practice. It is the considered and deliberate opinion of this committee that such dissatisfaction, opposition and feelings are well founded. It is the considered and deliberate opinion of the committee that the operation of the Workmen's Compensation Law has resulted in many violations of the code of ethics; in lowering the standards and high ideals of the profession; in unjustified and un-American coercion of patients; in the spread of contract practice; in the organization of lay corporations for the practice of medicine, in a most undesirable tendency to destroy the personal relationship between patient and physician; and in a general commercialization of medical practice.

The committee is, therefore, of the opinion that this Society must take a definite and forceful stand to perserve the ideals of the profession and uphold its established code of ethics. With this end in view, and realizing that even under a much more satisfactory law, questions and situations will crop up in industrial medicine which will require adjustment, compromise and possible disciplinary action, the committee is working out the details of setting up in the Society the necessary machinery to handle all such problems efficiently and expeditiously. In preliminary detail, this scheme will be outlined later in this report for your endorsement in principle. The committee is fully aware, however, of the logical end toward which such action tends; and it considers it very necessary and important that the full membership of the Society should have a complete realization of all the implications involved. Any board or committee of the Society, charged with such duties, may at any time find itself confronted by a member whom it believes to be flagrantly violating medical ethics and yet one who remains obdurate and recalcitrant. In this situation the only recourse will be his citation to the Executive Committee for trial and, if found guilty, recommentation to the Society for discipline. This may mean expulsion from membership. In this eventuality, expulsion, to be effective in maintaining discipline and protecting the rights of members, must carry with it a denial to the offender of the right to consult with any member of the Society in good standing and a denial to any hospital of the right to continue him as a member of its staff under penalty of having the other members of its staff refused permission to serve during the period that, in the opinion of the Society, it is acting contrary to the interests of the medical profession. Such are the ultimate and legitimate conclusions of the endeavor to put its own house in order, on which the Society is now embarked. If the Society does not propose to go to these lengths in controlling its membership and effecting adequate discipline, no amount of time and effort expended by the Committee on Medical Economics will be of any avail.

The draft of the medical section to be proposed for incorporation in the new Workmen's Compensation Act is believed to accomplish the following:

1. It places upon the employer the duty and obligation of providing complete and full medical service for injured employees.
2. It reserves to the employee the absolute right to select his own physician.
3. It protects the injured employee against incompetent or inadequate medical treatment by reserving to the Deputy Commissioner the right to effect a change in physicians or insist on consultation.
4. It confers on the Deputy Commissioner the right to appoint an impartial medical board to advise him in questions involving disputes with respect to fees or the extent and continuance of disability. The advantages of this system over the present one, under which the experts are employed by the parties to the dispute and give ex parte testimony, are obvious. Under this provision it is probable that the Deputy Commissioner could and would avail himself of the services of the body or committee set up by the Medical Society to handle such matters.

The committee, therefore, recommends the adoption of the following resolution:

> RESOLVED, That the Medical Society of the District of Columbia endorses, in principle, the subjoined draft of a Medical Section of a Workmen's Compensation Act, which is hereby made a part hereof, and pledges itself to endorse and instruct its Legislative Committee to further the passage of any such act containing such section, provided, however, that the other sections of the proposed act also meet with its approval.

Medical Services and Supplies

Section — (a) The employer shall furnish such medical, surgical, and other attendance or treatment, nurse and hospital service, medicine, crutches, and apparatus for such period as the nature of the injury or the process of recovery may require. The employee shall have the right, at his option, to select a physician other than the one provided by the insurer; and in case he shall be treated by a physician of his own selection, or, in the case of emergency or for other justifiable cause, a physician other than the one provided by the insurer is called to treat the injured employee, the reasonable cost of such services shall be paid by the insurer subject to the approval of the Deputy Commissioner.

(b) The Deputy Commissioner may order a change in the physician, surgeon, hospital, or other requirement, if, in his opinion, there is reasonable ground for believing that such requirements or any of them are being furnished in such manner as to endanger the life, health, or recovery of the employee; and for the assistance of the Deputy Commissioner in such cases he shall have the power to cause such employee to be examined by a board of not less than three physicians selected by the Deputy Commissioner for the specific case or injury, and to obtain from such a board a report containing its estimate of such disabilities; and furthermore, whenever in the opinion of the Deputy Commissioner, a physician has not impartially estimated the degree of permanent disability or the extent of temporary disability of any injured employee, the Deputy Commissioner shall have the power to cause such employee to be examined by a board of not less than three physicians selected by the Deputy Commissioner for the specific case or injury, and to obatin from such a board a report containing its estimate of such disabilities.

(c) All fees and other charges for such treatment or service shall be limited to such charges as prevail in the same community for similar treatment of injured persons of like standard of living, and shall be subject to regulation by the Deputy Commissioner.

In order to expedite the amendment of the Constitution and By-laws to provide for setting up in the Society the machinery necessary to handle questions affecting its members arising under industrial medicine, the Committee on Medical Economics formally proposes the following amendments:

> Amend Article VII, Section 4 (as amended January 6, 1932) by inserting after the word "Society" in line 4, the following: "except such as apply to Workmen's Compensation, Industrial Medicine and Contract Practice."
>
> Amend Article VII, Section 3, by adding: "There shall

be a Compensation, Contract and Industrial Medicine Committee consisting of five members, the Chairman of which shall be appointed by the President, and be an ex officio member of the Executive Committee, and hold office until his successor is appointed. This amendment shall take effect at the time of its adoption by the Society and the four other members of the Compensation, Contract and Industrial Medicine Committee shall be elected at that time, two members to serve until June 30, 1935 and two members to serve until June 30, 1936, and thereafter, beginning at the annual meeting in the year 1935, two members of this Committee shall be nominated by the Nominating Committee."

Amend Article VII, Section 9, by adding: "The Compensation, Contract and Industrial Medicine Committee shall act in matters of difference between members of the Society and insurance carriers and for this purpose the chairman of the committee is empowered to appoint two members of the Society, not necessarily members of the committee, to meet with two qualified representatives of insurance carriers for the settlement of any disputed bills between physicians and carriers. No such arbitrator shall sit in any case in which he, or a party he represents, is interested. If no agreement can be reached by such arbitrators, the matter in dispute shall be referred to the full committee, and any member of the Society submitting to arbitration as herein provided shall abide by the final decision of the Compensation, Contract and Industrial Medicine Committee.

It shall be the duty of the Compensation, Contract and Industrial Medicine Committee to investigate all charges of unethical conduct against members of the Society as regards Workmen's Compensation, Industrial Medicine and/or Contract Practice; and to review contracts between physicians and employers on any matter pertaining to Workmen's Compensation or Contract Practice.

The Compensation, Contract and Industrial Medicine Committee, in all matters pertaining to Workmen's Compensation and/or Contract Practice, shall be a fact-finding committee and to this end shall make such investigations as it may deem proper or as it may be requested to do by the Executive Committee or by the Society; and in such investigations it shall be empowered to conduct hearings and it is hereby made the duty and obligation of members of the Society to attend and testify at such hearings when duly summoned by the Chairman of the Compensation, Contract and Industrial Medicine Committee.

No member of the Society shall enter into any contract of a medical or surgical nature, written, verbal or implied, unless and until said contract shall have been submitted to the Compensation, Contract and Industrial Medicine Committee and approved by said committee.

If the Compensation, Contract and Industrial Medicine Committee finds that it cannot amicably adjust any case which has received the consideration of the committee, or if the Compensation, Contract and Industrial Medicine Committee finds that which in its opinion indicates a serious breach of medical ethics on the part of a member of the Society, it shall in such instances report its findings, with definite recommendations, to the Executive Committee."

In this connection the committee recommends the adoption of the following resolution:

> RESOLVED, That the Medical Society of the District of Columbia endorses, in principle, the purposes motivating the proposed amendments to the Constitution and By-laws contained in the report of January 3, 1934, of the Committee on Medical Economics, and instructs the committee to have its final recommendations on this subject ready to present to the Society at the time of the consideration of the proposed amendments for final vote at the next Stated Meeting.

It should be noted that the above action of the Society with regard to proposed legislation approves only the general principles involved and reserves final action until a draft of the completed bill is presented. The Legislative Committee of the Society will give careful consideration to all of the details of the bill as they apply to medical care and will secure all necessary advice to insure the presentation of a bill that will eliminate the deficiencies of the present act.

ACTIVITIES OF SECTIONS

Section on Nervous and Mental Diseases

The next regular meeting will be held in the Society's Building on February 1st. The program:

Symposium on Neurosyphilis

1. "Acute Syphilitic Meningitis and Arteritis. Case Report." Dr. Walter Freeman and Mr. Alfred P. Thom, 3d.
2. "Neurosyphilis from the Standpoint of the Internist." Dr. Charles R. L. Halley.
3. "Neurosyphilis from the Standpoint of the Ophthalmologist." Dr. G. Victor Simpson.
4. "Neurosyphilis from the Standpoint of the Otologist." Dr. Victor R. Alfaro.
5. "Treatment of Neurosyphilis." Dr. Theodore C. C. Fong.

The election of officers at meeting held December 7, 1933, resulted as follows:

H. D. Shapiro, *Chairman*
Roger Stahl Cohen, *Vice Chairman*
Walter Freeman, *Secretary-Treasurer*
Executive Committee: Joseph L. Gilbert
Ernest E. Hadley
D. Percy Hickling

MEDICAL SOCIETIES WITH LIMITED MEMBERSHIP

Surgeon-General R. U. Patterson Admitted to Honorary Membership

On November 21, 1933, Major General Robert U. Patterson, Surgeon General of the United States Army, was formally admitted to the American Academy of

Ophthalmology and Oto-Laryngology as an honorary member, at a dinner given at the Army and Navy Club which was sponsored by the American Academy of Ophthalmology and Oto-Laryngology and the Section on Ophthalmology and Oto-Laryngology of the Medical Society of the District of Columbia. There were 65 members and guests present, including Drs. Burt R. Shurly of Detroit, H. P. Mosher of Boston, S. H. Large of Cleveland, and W. P. Wherry of Omaha. Dr. William Thornwall Davis was chairman of the local committee on arrangements.

MEDICAL ARTS SOCIETY

The November meeting of the Society was held at the Hamilton Hotel, preceded by the usual dinner. The program:

1. "The Care of the Chronic Arthritic Patient." Dr. Frank M. Hand. Discussion opened by Dr. William B. Marbury.
2. "Unusual Case of Cardiospasm." Dr. Harry F. Davies.

December meeting:

1. "Neuritis." Dr. Antoine Schneider.

   The importance of dietary deficiencies as the causative agent in many forms of this disease was stressed.

   Discussion: Drs. J. J. Shugrue, W. R. Stokes, R. J. Fields and R. Massie Page.

2. "Xanthomatosis in a Child. A Case Report." Dr. J. J. Greenlaw.

   Discussion: Drs. H. F. Anderson, Tomas Cajigas, L. S. Otell and Claude Moore.

January meeting:

1. "The Management of Syphilis in General Practice." Dr. John C. Reisinger.

   A review of results in large group studies of several outstanding institutions was presented with comments.

   Discussion: Dr. H. H. Hazen and Major J. C. Kimbrough.

2. "Excessive Nocturnal Emissions." Dr. Walter R. Stokes.

   An elaborate hypothesis as to the mechanism with a presentation of the normal and abnormal psychosexual patterns involved was offered.

Dr. Alec A. Preece is the present Secretary-Treasurer.

MEDICAL REVIEW CLUB

Recently elected officers:

Harold A. Krogh, *President*
Leroy L. Sawyer, Jr., *Vice President*
Alan J. Chenery, *Secretary-Treasurer*

THE GEORGE M. KOBER MEDICAL SOCIETY

On February 19, 1934, at the Washington Golf and Country Club, the following program will be presented:

1. "Acute Intestinal Obstruction." Dr. Howard L. Smith.
2. "Case Report. Cardiac Suture with Death." Dr. H. H. Schoenfeld.

THE WASHINGTON ACADEMY OF SURGERY

On the evening of December 8, 1934, this professional organization had its inception. The avowed objectives are to cultivate and improve the science and art of surgery in all its branches and to participate in such other matters as may come legitimately within its sphere. Among the requirements for membership are 8 years of practice with limitation of work largely to surgery, or its allied branches, and certification of ethical standing and ability in the practice of surgery. Regular meetings will be held four times a year on the second Friday in February, April, October and December, in the Library of the Medical Society of the District of Columbia.

To the meeting to be held on February 9, 1934, all members of the Medical Society of the District of Columbia are invited. The program:

1. "Angioneurotic Edema with Report of a Case with Visceral Manifestations." Dr. Charles S. White.
2. "Carcinoma of Head of Pancreas. Report of a Case." Dr. J. P. Shearer.
3. "Intestinal Obstruction. Report of a Case." Dr. F. R. Sanderson.

The officers of the Washington Academy of Surgery to serve for two years are as follows:

H. H. Kerr, *President*
F. R. Sanderson, *Vice President*
Alec Horwitz, *Secretary-Treasurer*

Executive Council: F. X. McGovern, Charles S. White, J. P. Shearer, James A. Cahill, Jr., and Daniel L. Borden.

Charter Members: Daniel L. Borden, E. A. Cafritz, James A. Cahill, Jr., B. F. Dean, F. C. Fishback, James A. Gannon, Edmund Horgan, Alec Horwitz, H. H. Kerr, John H. Lyons, Wm. B. Marbury, F. X. McGovern, Robert E. Moran, Paul S. Putzki, A. L. Riddick, W. W. Sager, F. R. Sanderson, H. H. Schoenfeld, Joseph P. Shearer, J. J. Shugrue, Howard F. Strine, Lewis H. Taylor, George Tully Vaughan, J. Ogle Warfield, Jr., and Charles S. White.

ANNUAL SCIENTIFIC ASSEMBLY

MAY 2–3, 1934

It would be well worth noting now these dates on your calendar. Dr. Don S. Knowlton and members of his committee are now actively engaged in preparing a program which will be of much interest. Dr. Wm. Thornwall Davis, who is chairman of the Subcommittee on Attendance, expects an unusually large number of physicians to attend, particularly from the neighboring States. A change has been made in the general committee personnel; Dr. V. R. Alfaro assuming charge of arrangements for the banquet which is to be held on the evening of May 3. Dr. Robert A. Bier announces his subcommittee's personnel, on the public meeting, as follows: William P. Argy, Hugo Einstein and Harry Zehner. This meeting has always been a special feature. Contact with laymen on these occasions redounds to the credit of the organized profession. Dr. E. E. Hadley's Program Subcommittee members are: Matthew White Perry, G. Victor Simpson, H. H. Schoenfeld and J. F. Elward. If you are contemplating reading a paper or making scientific presentations, make *early* contact with this committee.

DISTRICT OF COLUMBIA SOCIETY OF CLINICAL LABORATORY TECHNICIANS

The first regular meeting of this newly organized Society was held at George Washington University Hospital on November 14, 1933. The object of this Society is to cultivate a high ethical standard among laboratory technicians in accordance with the code of ethics established by the American Society of Clinical Pathologists, and to maintain the minimum standards of educational and technical qualifications for various technical workers in the clinical, research, public health, and hospital laboratories.

The newly elected officers are: Mr. Willis R. Adams, *President;* Miss Mary G. Wolford, *Vice President;* Miss Dorothy E. Hardin, *Secretary;* and Mr. Edwin C. Thompson, *Treasurer.*

The Executive Council consists of the 4 officers and 5 elective members, the latter being Miss Theodosia Foxwell, Miss Evelyn Morrisette, Miss Margaret C. Bush, Mr. Mark N. Linch and Mr. Matthew B. Coleman.

The next regular meeting will be held on January 10, 1934. Dr. Tomas Cajigas will address the Society on "Some Laboratory Problems of Interest to Technicians."

GEORGETOWN UNIVERSITY

Announcement of New Appointment to Medical Faculty

Dr. Charles J. Stucky, A.B., M.S., Ph.D. (Yale), formerly an instructor in chemistry and physiological chemistry in his Alma Mater, and lately teacher of biochemistry at the New York Institute (Columbia University) has become Professor of Biochemistry. Dr. Stucky has been noted for his research work in vitamins and problems of nutrition, also in the application of chemistry to psychiatry. His contributions to medical literature have been numerous.

GEORGE WASHINGTON UNIVERSITY

Post Graduate Clinics

On February 23, 1934, at Gallinger Municipal Hospital, there will be clinics and demonstrations; on February 24, exhibition of laboratory work and clinics at the Medical School and Hospital. Complete program may be obtained by applying to the Medical School. The profession is cordially invited to attend. There are no charges. On the evening of February 24, at 7:30 P.M., a banquet under the auspices of the George Washington University Medical Society, of which Dr. A. B. Bennett is President, will terminate alumni homecoming festivities.

BOOK NOTICES

The New Healthy Living, by Charles-Edward Amory Winslow, D.P.H., Professor of Public Health, Yale Medical School, and Mary L. Hahn, Associate Professor of Health Education, Michigan State Normal College. New York: Charles E. Merrill Company, 1929. Books 1 and 2, 738 pp., illustrated. Price $1.84.

This work of 2 volumes, intended as a text in the lower school grades, incorporates in its pages a large amount of fundamental information concerning body structure, function and care, written in a particularly appealing style. Quite unconsciously through such chapters as "The Food Magic of Vitamin," "The Eye, a Wonderful Camera," "The Microbe Enemies," with a well chosen illustrative cartoon, "The Careful Sneezers," "The Price Tags of Health," safe information is acquired. Allusions are made with illustrations to the work of Pasteur, Gorgas, Holt, Claude Bernard, Jenner, and Walter Reed. These volumes should accomplish well without indulging at all in the older rote methods, much in gaining an appreciation of health by the coming generation.

The Laws of Health and How to Teach Them, by Charles-Edward Amory Winslow and Pauline Brooks Williamson. New York: Charles E. Merrill Company, 1929. 384 pp., price $1.60.

This book, addressed to teachers, deals with the giving of instructions in laws of health according to modern standards of pedagogy. Information is given in basic anatomical and physiological facts with outlines of modern public health set-ups, community sanitation, school medical inspection, etc. Ways of dramatizing health for the benefit of the younger mind are given in detail. A selected bibliography is appended for more extensive reading.

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA

VOLUME III FEBRUARY, 1934 NUMBER 2

CONGENITAL SYPHILIS*

THOMAS PARRAN, JR., M.D.
Commissioner of Health, The State of New York

From the standpoint of national vitality the control of syphilis is an urgent task. The incidence of the disease is not declining in this country, although syphilis is a disease which can be controlled readily by medical measures. It should be possible to make this a rare disease in one generation. The essential facts are known. Technical methods are available. The cost would be small compared with the resulting social and economic values. Yet society looks in vain to you private practitioners of medicine and to us public health authorities for the necessary joint plan of action and its execution. The doctrine of *laissez faire* is passing out of our economic life, but this doctrine still dominates our thoughts and efforts concerning syphilis.

If we consider relative values in public health work, viz., the volume of sickness, death and economic loss which can be prevented by a given expenditure of money and effort, health departments everywhere are making their most vigorous efforts for the control of minor plagues while the major plague of syphilis continues unabated.

The private physician must share responsibility with the health officer for the continued high prevalence of this disease through his indifference to preventive aspects, his ignorance of syphilis as a disease and his opposition to public action in the face of failure of private efforts.

The title of this paper is "Congenital Syphilis." My knowledge of the clinical aspects does not entitle me to make this the sole theme. The facts of the disease, too, compel major emphasis on prevention; the relation of congenital to acquired syphilis suggests a consideration of the larger problem as well.

CONGENITAL SYPHILIS AS A MEDICAL PROBLEM

The medical and public attitude of *laissez faire* regarding syphilis is due largely to the moral considerations which make it difficult for us to consider this disease solely as a medical and public health problem. Do this, however, and the task is vastly simplified. While control through moral prophylaxis theoretically is possible, it involves factors far beyond our control. We should support and assist such efforts but should not be diverted by them from our primary task. Syphilis can be controlled by direct medical measures long before any considerable change in the sex habits of the population normally can be expected. Here is the next great opportunity for health progress. In many ways it seems strange that syphilis has not already been brought under control, so simple seems the task as compared with other major health problems.

In approaching this subject let us appraise briefly the public health status of syphilis; the scientific facts regarding its prevalence and distribution in the population; its epidemiological characteristics; and indicated methods of control.

EPIDEMIOLOGICAL FACTS

Although there are many gaps in our knowledge concerning syphilis, there are many facts which argue for its controllability. The causative agent is delicate and lives only on moist surfaces. It exists but for a short time outside of the body. There is no intermediary host and no reservoir of infection aside from man himself. The virus is not widely disseminated in the population in the sense that the tubercle bacillus is widely disseminated. Intimate contact is required for spread of the disease. There can be no explosive outbreaks. Infections occur singly and from the very nature of its transmission intimate contact is required for spread. Spreaders of the disease are limited to those in the sexually active period of life. The duration of acute infectiousness presumably is short, although chronic carriers are a factor in this as in many other diseases. The diagnosis of the disease is easily made as soon as the first lesion appears. And, finally, remedies are available which will speedily sterilize the infectious case.

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* Read before the Society, January 10, 1934.

Syphilis is kept alive and spreads chiefly by a series of small epidemics. These outbreaks can be traced by epidemiological methods more easily, in fact, than smallpox or typhoid fever. Cases can be brought under treatment and these epidemics controlled. Here is a new and largely untried weapon in the control of syphilis which is second in importance only to the Wassermann test. The practicability of this epidemiological method of attack has been demonstrated conclusively by the late William L. Munson of my New York State staff during the past 4 years and by Dudley Smith at the University of Virginia. Each has shown the possibility of tracing an outbreak of syphilis by the same methods used in the investigation of other communicable diseases. Munson has traced more than 30 such local outbreaks, averaging 4 or 5 cases each, most of which were not under treatment. Smith has shown that from 119 cases of early syphilis, 242 contacts were named (representing 196 persons), of whom one-half were located and brought under treatment. Significant in Smith's data is the fact that all of these cases were in the infectious early stage of the disease and had not been under treatment previously.

PREVALENCE AND DISTRIBUTION

As a result of studies of the United States Public Health Service, information is available in populations totaling 26,000,000 as to minimum rates of clinically recognized cases, the annual attack rate of clinically recognized cases in a smaller but representative sample of the population, the trend of the infection rate, and other facts which have a bearing on control. Briefly summarized, information from this and other sources shows the following:

On account of syphilis 4.26 persons per 1,000 of the population are constantly under treatment. This represents more than one-half million people in the United States. If other urban rates apply to Washington, 4,300 cases are constantly under treatment in this city.

There are 7.3 cases per 1,000 persons of new infections each year, or an annual crop of new cases in this city of more than 5,000.

Two-thirds of the cases are being treated as private patients, although this proportion is reversed in such cities as Baltimore and Philadelphia.

One-half of all physicians are constantly treating syphilis, but the bulk of cases is concentrated in the hands of specialists and clinics.

Syphilis is 4 times as prevalent in urban as in rural areas, and 5 times as prevalent in negroes as in whites. The infection rate in males is 50 per cent greater than in females. Syphilis is comparatively rare in certain rural areas but almost pandemic in boom towns and certain negro groups.

Only one-half of all cases seek treatment within one year of onset, and of these only 6 per cent start treatment in the sero-negative primary stage.

Re-surveys in my own state are confirmed by federal data showing a significant increase in prevalence since 1926–27.

Congenital syphilis affects 2 per cent of all new born babies. In obstetrical clinics syphilis is present in from 3 to 25 per cent of the cases, averaging 5.6 per cent in all reports which I could assemble. Congenital syphilis is the largest single cause of fetal death, being 12 to 50 per cent of the total.

MATERNAL SYPHILIS

A prime difficulty in the control of syphilis is the discovery of cases. In dealing with congenital syphilis and its precursor, syphilis in the pregnant woman, a rare opportunity is offered for recognition and treatment.

Prophylactic drops in the eyes of each new born baby is a standard and almost universal practice. Wassermann tests in every pregnancy likewise should be universal. Why should obstetrical routine include the one and not the other? If this paper were limited to one sentence, this is what I should say, "Every pregnancy means a Wassermann test." Most obstetrical clinics now take routine 'Wassermanns,' and this practice must be extended to private patients as well. The importance of routine 'Wassermanns' in pregnancy is shown vividly by Emerson in the Philadelphia obstetrical clinics. Serving the same type of clientele, one group made a Wassermann test only when the history of physical examination led to suspicion of syphilis. As a result, 12 cases of syphilis were discovered among 19,411 patients. A second group of hospitals made routine 'Wassermanns' on all patients and discovered 112 cases among 2,559 patients. This emphasizes the well-known fact that the pregnant syphilitic woman usually is free from clinical signs of the disease, the Wassermann test being the only evidence. A fallacy exploded long ago is that in pregnancy one may expect falsely positive Wassermann reactions. Yet this fallacy persists. A positive Wassermann test in pregnancy must not be ignored. Tragic is the effect of syphilis upon pregnancy; yet, ironically enough, pregnancy has a beneficial effect upon the syphilis, suppressing symptoms, promoting latency and even reversing a positive Wassermann.

A syphilitic child may be born of a Wassermann-negative mother. The child, however, can not be infected unless the mother herself has syphilis. Since the prevention of congenital syphilis depends upon recognition of the disease early in pregnancy and its adequate treatment, a few essentials of such treatment are suggested.

If started before the fifth month, infection of the fetus may be prevented; if later, a non-syphilitic child is probable. If the mother has early, untreated syphilis, an unsuccessful outcome of the pregnancy is a practical certainty. If adequate treatment is given, a living, non-syphilitic child is assured in 90 per cent of the cases. Studies by Williams, Jeans, Gammeltoft, Moore, Turner, McCord and Roberts in this country and by a large group of foreign observers, while differing in detail of results, point to the relative preventability of congenital syphilis through adequate treatment of the pregnant woman. The classic studies of Williams among 4,547 pregnancies of syphilitic women show: (a) With no treatment, 52 per cent syphilitic children; (b) with inadequate treatment, 37 per cent syphilitic children and (c) with adequate treatment, only 7.4 per cent. In Gammeltoft's series, 96 per cent of the pregnancies among untreated syphilitic women resulted in a syphilitic child, while with active treatment this was reduced to less than 20 per cent. In Roberts' series, among 128 well treated pregnant syphilitics, only 5.3 per cent gave birth to syphilitic children, while among 317 untreated cases this rose to 51 per cent.

Treatment of the pregnant syphilitic woman should be vigorous and continuous. It should combine arsphenamine with mercury or bismuth up to the limit of tolerance, and should be continued up to the time of confinement. One should aim for the maximum sterilizing effect.

More difficult to state dogmatically are the criteria of syphilis in the newborn. A negative 'cord Wassermann' is not conclusive evidence that the infant is non-syphilitic. A positive 'cord Wassermann' means a syphilitic child in 80 per cent of the cases. Histologic examination of the placenta has the same percentage of error. X-ray of the long bones, however, is a much more accurate criterion. With pathognomonic signs by X-ray, treatment should be started at once irrespective of other tests. Darkfield examination of the cord vein, if positive, makes the diagnosis a certainty. Clinical observation with repeated Wassermann tests should be made in all suspicious cases. As in early syphilis, treatment should not be started before a diagnosis is made with reasonable certainty. Helpful guides to a decision as to the presence or absence of syphilis and indications for treatment are given by Moore in his "Modern Treatment of Syphilis" recently published.

Sulpharsphenamine (15 Mg/Kg) is peculiarly the arsphenamine of choice in early congenital syphilis and should be combined with mercury or bismuth. Later congenital syphilis should be treated as other forms of late syphilis. Good hygienic care and nutrition are important adjuncts. The Welander Homes in the Scandinavian countries for congenital syphilitic children secure excellent results by combining the best of hygienic and nutritional care with antisyphilitic treatment continued if necessary over a period of years.

In treating congenital syphilis, however, we are dealing with failures of prevention upon which our efforts should be concentrated.

Public and Private Control Methods

There is a challenge to you, the physicians of this City, in the facts I have tried to present. Nowhere on the whole medical front is there a greater probability of extended public action for disease control. Syphilis is a disease which lends itself readily to mass methods of treatment, with resulting economies. Although one-third of the cases now are being treated at public expense, and in some cities two-thirds of the total, the preponderance of early cases still go to the general practitioner. It is here that a valuable opportunity is lost through his lack of concern with the preventive aspects. Should public health authorities provide treatment services for all the population in the same way that diagnostic service and sanatorium care are provided for the tuberculous in many states? In New York, for example, these services for the tuberculous are almost as freely available as public education. After studying the successful public methods in handling this problem in European countries, one is tempted to translate their practices and policies bodily to a solution of ours. I would prefer to build upon our present dual system of private practice and public control, imperfect as it is, if the medical profession itself will give satisfactory private care to those able to pay at a cost comparable to other medical services; and if, in addition, the private physician will assist in control by notification of cases and lapsed cases, by instruction of patients and by cooperation in epidemiological investigations.

Even though the medical profession accepts this added responsibility for private cases and the health department furnishes clinic services for the indigent, there is still unsolved the problem of caring for small wage earners. Because of restrictions at most public clinics they can not get treatment and yet are unable to pay the rates charged in private practice. Experience has shown that satisfactory treatment can be given through a pay clinic at a cost well below that charged in private practice. Health authorities prefer not to organize and operate such clinics, and there are disadvantages in having it done by private organizations. Much better would be the organization of a pay clinic as a part of the hospital dispensary service. Here we have already the business organization, the physical facilities and the medical staff. In such a clinic fees collected would pay reasonable compensation to many young physicians who, moreover, would receive a training in handling this disease.

To broaden medical and public health effort for a better control of syphilis means a greater acceptance of responsibility on the part of both. More specifically, it means:

For the medical profession:

1. Ability to recognize syphilis and to treat it scientifically, or a willingness to refer the case to those who can.

2. Complete treatment. Once a case is undertaken, the doctor must see it through. Haphazard and intermittent treatment may be worse than none for the patient.

3. Instruction of the patient in the nature and seriousness of his condition.

4. A schedule of fees no higher than those for comparable medical services.

5. Provision of pay clinics for the marginal and part-pay case, with payment of physicians for their services.

6. Notification to health authorities of every case, and particularly of every lapsed infectious case.

7. Routine serological tests for all maternity cases, for all hospital admissions, for all who are given routine physical examinations and for all cases presenting a doubtful diagnosis; briefly, a "higher index of suspicion" for syphilis, as Stokes terms it.

8. Acceptance of responsibility for epidemiological investigation of the source in every case of early syphilis or a report to the health officer so that he may investigate.

Better acceptance of responsibility for syphilis control means:

For the health officer:

1. Provision of free diagnostic service both by darkfield and serological tests. The capillary pipette method for examining chancre fluid has real usefulness.

2. Maintenance of free clinics for those unable to pay private physicians, with convenient hours, skilled and sympathetic treatment.

3. Distribution of drugs to physicians for treatment of their marginal patients.

4. Supervision and coördination of the work of private hospital clinics.

5. Maintenance of a confidential central register of reported cases.

6. Follow-up and return to treatment of all lapsed infectious cases.

7. Epidemiological investigations to determine source of infection in early cases.

8. Public education concerning syphilis and gonococcus infections.

INITIAL STEPS IN DEVELOPMENT OF A PLAN

Such a plan obviously can not be started overnight and is admittedly idealistic in its concept and scope. A feasible starting point in this city, however, would be the appointment of a committee by this Society instructed to develop a practicable plan for better control of syphilis, after study of the local problem.

I suggest the following questions, some or all of which such a committee should seek to answer:

1. Is adequate instruction in syphilis given in the medical schools?

2. How adequate in number, convenience of hours and quality of clinical service are the hospital and health department clinics in the city?

3. Is there any central register or clearing house of information concerning clinic clientele?

4. Are the clinics equipped for social service follow-up and for epidemiological investigation of lapsed cases and sources of infection?

5. Do the clinic directors assume personal responsibility, or is the clinical work delegated to an unskilled house staff?

6. Are serological tests reasonably reliable and uniform in the various Wassermann laboratories as shown by test checks?

7. What facilities exist for postgraduate instruction and "refresher" courses for practitioners in the treatment of syphilis?

8. Is the health department equipped with the funds and brains necessary to do its part of the job?

9. How can there be undertaken a study of the epidemiological method for finding cases and tracing sources of infection?

SUMMARY

In this discussion I have presented evidence that through joint medical and public health action syphilis *can* be controlled. I have summarized facts as to the importance of this disease which make it clear that syphilis *must* be controlled. And, finally, I have outlined the detailed steps which must be taken, steps so simple and so well proven as to leave no doubt that by taking them syphilis *will* be controlled.

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DISCUSSION

Dr. William A. White, President, Social Hygiene Society: Dr. Parran has very kindly referred to me as one of his teachers and has absolved me for any blame or criticism I may make; then, he has delivered a paper which is so ably presented that he has left no loop holes, before I have an opportunity to start. Under the circumstances I will try to supplement some of the things he has said. When he was citing some of his statistics you remember he told you there were probably about 5,000 new infections in this city every year, and he has already indicated what the general attitude of the public is. Nobody does very much about this important infection. A few years ago there was a gentleman by the name of Early who had leprosy. Do you remember the disturbance that he made in the District of Columbia? I think it is a very significant thing that one leper can stir up more apprehension and fear than 5,000 newly infected syphilitics annually. That fact is so significant that it requires a considerable amount of study to realize what it means. Most of you have heard the saying that "syphilisation goes along with civilization," the implication being that the roots of both run very deeply and not far apart. Therefore, I would say that the mere fact that syphilis is an important evil, that it is a tremendous public health problem, that it has threatened your life and mine, does not mean a thing in the world so far as prevention is concerned. The prevention of a disease of this sort is a matter on paper which seems exceedingly simple. As a matter of practice I don't know of any more complex question in our social organization. Why is it? There is in this whole problem of prevention what I like to call a mental hygiene factor. There is a factor that must be understood if we are going to succeed. The difficulty that is involved in dealing with this disease is a difficulty which has its source in the instinct of sex; we are attempting to control the most powerful instinct that the human being has. Anything that threatens that instinct directly or indirectly arouses all sorts of obstacles in the way of doing anything. Unless we can learn to finesse that particular instinct we will fail.

The doctor has given you some information about congenital syphilis that I would like to supplement in this way. Before the advent of laboratory diagnosis an enormous amount of ills were supposed to be due to the diluted effects of syphilis in succeeding generations. The more clearly we have been able to define the syphilis problem itself the less that seems to be true. In our field it was supposed that dementia praecox might be the result of syphilis. So far as we are able to tell, that is probably not so, or rather probably in only a small percentage of cases.

Perhaps the mortality that is produced is very much greater than the mortality of those actually born alive. The abortions, still-births, etc., must be included. The mere death of these syphilitic children at one stage or another is not the only disability that these children suffer. They may be blind, diseased, mentally deficient, paralyzed or otherwise invalided. The burden of congenital syphilis falls upon the innocent children. That ought to make some amount of emotional appeal to people interested.

Dr. Parran mentioned the moral aspects of venereal infection. This period of depression is not just a matter of economic upset. Something more critical is happening. All standards are pushed aside. People are branching out in new kinds of things and actions; things, that if 20 years ago they had been projected in any program no one would have believed could have been brought to pass, can be accomplished now almost over night, as it were. The moral aims and the health aims of the physicians ought not be at variance with one another. I don't see any reason why they should. There is no time better than the present when prejudices are being put aside for these two great forces of moral and physical health to join hands in a common program.

I merely want to remind you that there is such a thing as a Social Hygiene Society in the city of Washington. Dr. Parran has suggested a program. I am going to take the liberty of placing it in the hands of the Society for consideration, with the suggestion that our Society and the Medical Society of the District of Columbia should see what they can do in the way of getting together. If the people of Washington are sufficiently interested, I am sure that we can do something worthwhile.

Dr. William H. Hough: Congential syphilis presents one of the several important problems of syphilology facing the profession and the public today. Our object in asking Dr. Parran to come here was to enlighten us on the subject and stimulate greater effort on the part of the profession to combat the disease. I feel that he has more than fulfilled our expectations. You have heard what he has had to say. You had this subject presented to you a few years ago and you have read much in the medical periodicals concerning what had been accomplished in this and other countries by Gammeltoft of Denmark, Nabarro of England, and Williams and

Turner and others in this country. Today about 90 per cent of these cases can be prevented and yet we have, right here in the Capital of the Nation, syphilitic babies born before our very eyes almost every day, so that now we have in the District of Columbia approximately 8,000 cases of congenital syphilis under 15 years of age and an unknown number over that age. If you will give that matter a little thought you may realize what it means to the community in more ways than one. It would seem that we know how this disease could be almost eliminated by proper treatment of the mother, and it would appear that we have known this for a number of years. Something is wrong somewhere, but I do not believe that the medical profession is entirely to blame. The same identical situation exists in the problem of handling syphilis in general in this country. We have known how the disease could be put under control if we could only apply the methods that we now have at hand. We have not the means by which these methods can be applied, and I wonder after all if the effort to procure the means is strictly a medical problem. This is something that it may be well to seriously consider. We have done a great deal in the past 25 years in the treatment of syphilis, possibly more than was done in all the centuries since the Army of Charles VIII of France made its sexual attack upon Italy and spread the disease over all Europe in 1496. In spite of all that we have done, however, we have more syphilis in the United States today than ever existed before. The cost of this is appalling and, as has been said by many in the best position to know, the disease is the greatest public health menace confronting this country today. I hope that you all will give this matter more serious consideration and recommend for the indigent, at least, such changes in regulations and methods as you may deem necessary to improve conditions. Such recommendations should come from the medical profession, and they should not wait until the public demands better service, as they will surely be disposed to do as they become more enlightened and more fully realize the seriousness of the situation. I am sure that Dr. Parran's paper this evening has done a great deal of good in stimulating our interest in this matter.

Mr. Ray H. Everett, Executive Secretary, Social Hygiene Society: The Social Hygiene Society is carrying on a program of health education of the public in the field of venereal disease control. It is a tremendous task. When you are dealing with tuberculosis, cancer, heart disease and other major health hazards you can come out in the open, specify what you are talking about to the newspapers and they will publish it. But try to get "syphilis" in the newspapers! Even the announcement of this meeting did not go in. The radio and other general publicity media likewise exclude this subject save in a few scattered instances. You are really up against something when you cannot call by name the enemy you are fighting. We believe that the doctors can be counted on to take the lead towards securing a more rational attitude on this problem. Dr. Parran has ably brought out the fact that the cost of treating syphilis is very small in comparison with the tremendous economic damage that untreated or mal-treated syphilis does. In the District of Columbia numbers of individuals suffering from the end-results of syphilis are sent to St. Elizabeth's Hospital at a cost of $1.84 per day or $12.88 a week. It is probable that many of these patients, if given adequate treatment when first infected, would not have needed to go there. For indigent cases treated at the public clinic where the arsenicals and other drugs are purchased in quantity, the cost to the community of adequate treatment is far less than the cost of later maintenance in an institution. The Social Hygiene Society conducts no diagnostic or treatment facilities. If, as is often the case, indigent persons apply to us, we refer them to the clinic. If able to pay, we refer them to the Medical Society where they are given a list of physicians competent to treat them. We have sponsored many lectures on the subject, both to the general public and to industrial employees. We see this as a straight health problem and deal with it as such. We have constantly fought quackery and unscrupulous practices such as attempted counter-prescribing and back-room treatment by the occasional unethical druggist. As one token of our regard for sound, scientific bases for educational work, there are 13 physicians on the Society's Board.

In conclusion, may I say that we want all the help we can get from the Medical Society, and in turn, we can be of some help to organized medicine, I believe. The task is one which requires the allied efforts of therapeutic and educational forces.

Dr. Arthur C. Christie: It may seem somewhat presumptuous for a specialist in radiology to discuss a paper on a public health subject, but there are matters here which must interest every member of the medical profession. I wish to say a preliminary word in way of emphasis of the importance of X-ray examination of the long bones as a means of diagnosis of congenital syphilis. The bone changes are among the most constant findings in congenital syphilis, and X-ray examination is, therefore, of great importance. Dr. Parran and also Drs. White and Hough spoke of the moral and ethical questions involved in the treatment of syphilis. They are of such importance that the medical profession must have the help of socially minded people if preventive methods are to receive wide acceptance and be put into general operation. This meeting of the Social Hygiene Society with the Medical Society is, therefore, of particular significance. In addition to the clinical and social aspects of this problem, Dr. Parran also discussed what may be called the medical economic aspect. One of the methods which he proposes for treatment of patients who can pay only moderate fees is the pay clinic. The medical profession has no idea of obstructing any plan that is devised to get rid of disease, but it has misgivings about the permanent value of clinics which remove a large number of patients from the care of the general practitioner. Every general practitioner should be a center for the prevention of disease. This emphasis is becoming more insistent in the doctor's education and in his everyday practice. We must understand that the general practitioner is engaged in preventive medicine as much as in curative medicine. If a committee is to develop a plan, let it be a plan whereby the Medical Society of the District of Columbia is to become a center for coöperation with the Health Department and all agencies such as the Social Hygiene Society which are engaged in preventive health work. In Detroit the general practitioner is used and paid by the Health Department for preventive work, such as toxin-antitoxin administration. There are difficulties, but if the place of the general practitioner is properly appreciated they can be overcome and he can occupy an increasingly important place in disease prevention. I wish to emphasize to you that no permanent good can be accomplished for the people's health by hurting the profession upon which all must depend for medical care. It is better to build up that profession in every way possible. The permanent way is to properly educate the general practitioner and devise means to make him the real center of prevention of disease.

Dr. Prentiss Willson: Possibly I am a little "baby minded," but this comparison occurred to me as Dr. Parran was speaking. From what he said it would seem that there are over 5,000 new infections of syphilis in the District of Columbia in a year. I want to call your attention to the fact that that is more than 1 case of syphilis for every 2 babies born in this city. That gives you an insight as to how common it is.

Dr. Parran, in closing: I appreciate the discussion very much. I was particularly impressed by the remarks of Dr. Christie. I rather expected that others would have dealt with some of my recommendations less gently than Dr. Christie did. All of us recognize that Dr. Christie has a real ideal in the plan which he proposes. It is unfortunate that Detroit alone is held up as an example in view of the fact that except for diphtheria prevention it is a plan rather than an accomplishment. In my own state we have run up against the very practical difficulty of appropriating bodies, saying "how much does it cost to immunize a child against diphtheria in the clinics?" and "how much by the method as used in Detroit?" The answer is that in such a relatively simple procedure it is much cheaper to do it on a mass basis. We are "butting our heads against a stone wall" if we attempt to follow a method that is more expensive. Public officials must consider the efficiency and quality of the service. I do not think that 50¢ per treatment as Mr. Everett states could be considered a fair charge. A careful analysis of all costs, however, shows that an equivalent quality of service can be given at a lower cost in a syphilis clinic than at the hands of the average doctor in his office. The cost is smaller than we could expect the private physician to charge for his service. In rural areas in New York State we are following the plan of paying private physicians for syphilis treatments. Everybody knows his neighbors too well for him to have to go to a clinic. We have developed a plan of selecting and paying physicians designated by the County Medical Society. The State furnishes free diagnosis of syphilis through the Wassermann Test, also free arsphenamines for treatment of patients. The patients do not need to be indigent. I find the average physician will treat a case if he does not have to pay for the drug. We have developed the same system for general medical care for indigent unemployed, under which medical care is given to indigents in their homes and the private physician is paid fees for this service. Summarizing this question which Dr. Christie has raised: I believe there are types of medical service and of preventive medical service which can be handled best along the lines suggested by Dr. Christie. There are other preventive medical services which can be handled best through organized clinics. I doubt if we can persuade appropriating bodies to pay for the less effective methods. Syphilis is one disease which lends itself readily to organized methods of treatment.

PRIMARY CARCINOMA OF THE LUNG*†

A REVIEW WITH REPORT OF ILLUSTRATIVE CASES

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Recently there have been brought to my attention several cases of carcinoma of the lung, which presented features of unusual interest to me; and while these features have been reported before by other writers, they are not common and may deserve our attention for a few minutes.

Cancer in general is becoming of more interest to the medical profession, and to mankind, because of its increasing prevalence. There is an apparent increase in the number of cases because the condition is recognized more commonly than before. But there is also an actual increase, and this should be expected, as our life expectancy is increasing, and more persons live to the cancer age. As Wells put it, "A high cancer death rate is evidence of a good state of public health," and "Cancer is probably increasing to just about the extent that people are kept from dying of something else."

Bayle was one of the first to describe cancer of the lung. In 1810, he reported 3 cases and described a diffuse and nodular type. A little later (in 1819) Laennec devoted some time to the study of this condition, but was unable to diagnose it antemortem. Bell was the first to diagnose cancer of the lung during life from the symptoms of cough, pain, dyspnea and stridor, and he verified his diagnosis by autopsy. That was just about 100 years ago. Bronchogenic carcinoma, however, seems to have been uncommon, and as late as 1911, Adler was able to collect only 374 authentic cases from the literature. But with the discovery of the

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* Read before the Section on Neoplastic Diseases of the Society, November 18, 1933.

† From the Radiographic Laboratory of the Gallinger Municipal Hospital.

X-ray in 1895 and improvement in X-ray machines and technic during the following years, advancement has been rapid, and now several thousand cases of cancer of the lung have been reported.

ETIOLOGY

The cause of carcinoma of the lung is similar to that of cancer elsewhere (Eggers), particularly regarding inherent predisposition, age, race, etc. Irritation may be a factor, notably in certain miners who inhale radioactive dust (Arnstein, Pirchan). Also, pulmonary infections, such as influenza have been said to predispose to cancer of the lung (Askanazy). Tuberculosis is more common at an earlier age than cancer, so that these are not often found together. Recently, however, McNally has called attention to the fact that cigarette smoking has increased very much in the past 20 years, which increase parallels the rise in cancer; and it is possible that in some cases this source of irritation may be a factor. In the experience at this hospital cancer of the mouth has been seen quite frequently at the site where an old tobacco chewer has repeatedly held his tobacco. Certain it is, also, that cancer of the lung is found in the male about 3 times as frequently as in the female (Hruby and Sweany); but this is true also of primary carcinoma of the liver, Hodgkin's disease, and possibly other forms of malignancy.

PATHOLOGY

Briefly, most of the cancers of the lung are nodular masses, occurring along the main bronchi, particularly at the hilus. More rarely the lesion may be somewhat infiltrating, resembling tuberculosis; or if the spread is rapid, it may resemble pneumonia. A few cases have been reported, in which there was necrosis with cavitation near the center of the lesion (Burvill-Holmes). A miliary type of cancer also has been reported but is uncommon (Hruby and Sweany).

Microscopically also the picture is varied, and the predominating cells may be columnar, squamous or mixed. It has been suggested (McCarty) that the tumors arise from undifferentiated cell layers of epithelium, and the end-result depends on the power remaining in these multi-potential cells to undergo differentiation.

Brunn reviewed 626 cases from the literature and reported the lesion to be slightly more common in the right lung than in the left, while it was found in both lungs in some cases. The right upper lobe is a favorite site, but very curiously few cases are reported involving the middle lobe.

Metastases from bronchogenic carcinoma are most commonly to the pleura, regional lymph nodes and liver, in order of frequency; less commonly to the kidneys, bones, suprarenal glands, brain, heart and other structures (Miller and Jones). The spread may be by the lymphatics, by direct extension, or by invasion of the pulmonary vein (Hruby and Sweany).

The most commonly associated lesion is bronchiectasis, which sometimes leads to abscess formation. Very often there is atelectasis or even massive collapse. This is due to occlusion of a bronchus by pressure of the mass.

SYMPTOMS

The first complaint of the patient usually is coughing. This is important because an early diagnosis is so essential. And the presence of a persistent, dry cough, with no fever, in a person of the "cancer age," should immediately put the clinician on his guard, and an X-ray examination should be made. If the cough is productive, the sputum usually is of a blood-tinged, mucoid type, free from tubercle bacilli (Weller); and sometimes a careful examination may reveal the presence of cancer cells.

As the tumor grows and the pressure becomes greater, the cough becomes more "brassy," and pain becomes more significant. The pain may vary from a dull, persistent ache to an excruciating agony that even narcotics will not relieve. Dyspnea often is an important complaint, and cyanosis, anorexia or hoarseness may be mentioned. Later there may be frank hemorrhages, with sloughing of some of the tissue. Fever and night sweats, when present, are due to attendant infection.

PHYSICAL FINDINGS

The physical findings depend chiefly on the size and position of the tumor, and consist of limitation of motion, lagging, changed vocal fremitus, dullness or flatness on percussion, altered breath sounds, moist râles, and various other signs. Sometimes there are no physical signs.

Most important of all in making an early diagnosis is the X-ray film. In the diffuse type there is simply an area of increased density along the roots of the larger bronchi, homogenous or mottled, but with indefinite borders, extending into atelectatic tissue of the lung. In the nodular type there are nodules scattered throughout the lung. Christie, in 1921, emphasized the gradual extension of a tumor from the hilus outward, with discrete blending into lung tissue. Kornblum has pointed out the desirability of repeated examinations when possible, in order to follow the progress. As the mass becomes larger, the X-ray appearance may be altered or the lesions obscured, particularly in the case of a large effusion or massive collapse.

Bronchoscopic examination is a more recent development, and its use is a great aid, since the information gained is most definite, especially when a specimen of tissue can be secured for biopsy. The bronchoscopic picture of a primary cancer of the lung may be simply a constriction of pearly gray color and firm, "woody" consistency, or there may be a nodular or papillomatous growth (McCreae, Funk and Jackson).

DIAGNOSIS

In the majority of cases the diagnosis should not be difficult, based on the history of progressive cough in a person of the "cancer age," expectoration of blood-streaked sputum, pain dyspnea and other suggestive symptoms, associated with the physical findings of a mass, X-ray and bronchoscopic examinations. But sometimes the diagnosis may be difficult, particularly when there is an effusion, and when the roentgenogram is atypical.

Hruby and Sweany have emphasized the importance and the difficulty in differentiating tuberculosis. They believe that "in the past many persons with cancers of the lung have been sent to sanitoriums and have died, supposedly with tuberculosis," more frequently, however, before the discovery of the tubercle bacillus and the X-ray. Certainly the diseases are very similar, with progressive cough, expectoration, anorexia, loss of weight and even the development of an effusion in many cases. But tuberculosis is differentiated by the history, age, fever, physical findings, characteristic X-ray picture and usually discovery of the tubercle bacillus.

The same authors list the following conditions to be differentiated: "Mediastinal tumors, malignant and benign; tuberculosis of the hilar lymph nodes; Hodgkin's disease; carcinoma of the esophagus; sarcoma of the mediastinal structures, including the thymus; aneurism of the aorta; pneumoconiosis; foreign body; abscess; bronchiectasis; acquired atelectasis; massive collapse; cystic lung; chronic pneumonia; echinococcus cysts; benign tumors; chronic passive congestion; substernal goiter; bronchomycosis; blastomycosis; coccidioidal granuloma, and actinomycosis."

From the roentgenographic standpoint, perhaps most difficult to differentiate are abscess, foreign body, atelectasis, chronic pneumonia, passive congestion (which, however, is usually bilateral), and tuberculosis (from the infiltrating type of cancer). In all of these conditions the history and physical findings should help greatly in the diagnosis.

TREATMENT

The treatment of primary cancer of the lung is difficult, but it is hoped will meet with more success as early diagnosis and operative technic improve. Operation plus radiation are the methods employed in favorable cases. If the lesion is small, it may be possible to remove the nodule through a bronchoscope and implant radium. Many primary carcinomata of the lungs metastasize rather late, and recently several reports have been favorable following more extensive surgical measures, such as lobectomy or even complete removal of a lung (Graham and Singer).

The following illustrative cases have been observed recently in the Gallinger Municipal Hospital:

ILLUSTRATIVE CASES

Case 1: L. P., Case No. 23,631, a white man, 52 years old, was admitted to the medical service on November 7, 1932, complaining of cough, moderate expectoration, pain in the chest and thighs, loss of weight, weakness and fatigue, all of about a year's duration. Physical examination of the chest showed some depression of the right side of the chest with narrowing of the shoulder. Many bronchial râles and high-pitched sounds were heard, particularly in the right axilla. The impression was chronic bronchitis with some emphysema and probably some bronchiectasis. An x-ray film showed a diffuse area of increased density extending from the right hilum into the right lower lobe particularly. The findings were those of atelectasis and suggested the probability of a primary tumor of the lung with bronchial obstruction, although the possibility of bronchiectasis or even of tuberculosis was considered. A bronchoscopic examination showed the larynx to be normal. On passing the bronchoscope through the trachea there was a moderate amount of bleeding. At about the middle of the right main bronchus there could be seen a rounded mass, which partially occluded the lumen. This mass was slightly injected and smooth. There was no bleeding from this area, and no pus was found. There was a diminution in expansion and contraction on respiration. The impression was new growth of the right bronchus, and another bronchoscopy in about a week for biopsy was recommended. A few days later the patient developed diplopia, tending to walk to the right. A neurological report was as follows: "Bilateral choked discs; poor pupillary reaction to accommodation; slight right facial palsy; deep reflexes markedly diminished; definite hypotonia; staggering to the right; no pyramidal findings. Impression: neoplasm, probably right cerebellar." No tubercle bacilli were found in the sputum. The hemoglobin was 81 per cent, there were 4,500,000 red cells per cu. mm. of blood, and the leukocyte count was 15,200 with 81 per cent polys, 7 bands, 11 lymphocytes. The patient left the hospital on his own responsibility on November 21. It is my understanding that the cause of his departure was the discussion of a possible biopsy. The patient was readmitted to the hospital on November 29 in a critical condition. On readmission it seemed probable that he had metastases in the brain and liver. He died on December 5. Necropsy disclosed a primary growth of the right bronchus with extension of the malignancy through the bronchial mucosa. A few small lymph glands were seen about the right hilus. The liver showed evidence of some passive congestion and cloudy swelling, and a cancerous nodule the size of a walnut was found at the junction of the right and left lobes. The brain and skull were negative.

Case 2: R. U., Case No. 26,206, a colored male, 61 years old, was admitted on June 13, 1933, complaining of dyspnea of 10 months' duration; sometimes he would be awakened at night with a feeling of choking, so that he had to sit up to get his breath. There was no edema of the ankles. The blood pressure was 190/104. For the past 4 months he had had a gnawing pain in his lower abdomen and had vomited a few times. There was some difficulty in swallowing, especially hard foods. There was a feeling of substernal pressure both day and night. He stated he thought there was a lump in his chest which pressed on his windpipe. He had a little cough, but no hemoptysis. On examination the percussion was dull, breath sounds were bronchovesicular, and a few râles were heard from the second interspace down on the right side. No lymph glands were palpable. The clinical impression was general arteriosclerosis with hypertension, possible carcinoma of the esophagus, and bronchiectasis. X-ray examination showed an infiltrating mass extending from the hilus into the right lower lobe. This was thought to be a primary carcinoma. The gastro-intestinal tract was negative. A bronchoscopic examination showed a cancer of the right bronchus, with some stenosis of the left, probably due to pressure. Rather intensive X-ray therapy was given, and when last seen a few weeks ago his condition was about the same as when he was first admitted to the hospital.

COMMENT

This man is still alive, but his clinical picture, X-ray examination and bronchoscopic findings combined to make the diagnosis quite definite. His gastro-intestinal symptoms are interesting; they are not uncommon in carcinoma of the lung, occurring, of course, without organic lesions in the gastro-intestinal tract.

Case 3: C. R., Case No. 25,512, a white man, 34 years old, entered the Hospital on April 19, 1933, and gave the following history. He had had his right thumb incised and later amputated at Cook County Hospital several weeks previously, where they also had taken some x-ray films of his left knee because it was painful. He did not know the result of the examination. About 2 months before admission he had been exposed to the cold and wet, and had "caught cold." The cough persisted, but there was no expectoration. He complained also of attacks of severe epigastric pain of 6 weeks' duration, which were not related to meals. A few days later he admitted that he had had a "tobacco cough" for about 8 years. A tuberculous infection of the knee was suspected, although his lungs were clear on physical examination. He did have some slight clubbing of the fingers, and a few slightly enlarged cervical glands were found. X-ray examination of the knee showed evidence of a destructive lesion involving the distal third of the left femur; at a later examination, the upper third of the tibia also was involved; the knee joint was negative; the lesion was thought to be malignant or osteomyelitis. A film of the chest showed evidence of a mass extending to the right from the superior mediastinum, which had the appearance of a malignant tumor of the thyroid gland. A gastro-intestinal examination was negative. The knee was aspirated, and examination of the fluid showed many white blood cells but no organisms. His temperature was usually subnormal. On July 3, a biopsy was performed on an inguinal gland, and the pathological report was that of metastatic adenocarcinoma. His leg was causing him so much trouble that it was amputated a few days later (July 8) for palliative reasons. A pathological report on this member was metastatic adenocarcinoma. He was discharged on July 22. A few weeks later he entered a hospital in another city, where he died on September 18, 1933, and an autopsy was performed. The pathologist at that institution reports the cause of death as primary carcinoma of the lung.

COMMENT

Here is another man with history of chronic "tobacco cough" for several years, developing primary carcinoma in the right apex, with metastases to various glands, to the left knee and possibly to the right thumb, which has been amputated. The metastasis to the knee was unusually interesting and confusing. No other cause was ever found to account for his severe epigastric pain. Was it due to metastases in the spine or elsewhere? Also, note that the early clinical picture suggested tuberculosis of the lungs and knee, except for the absence of fever. He was only 34 years old.

Case 4: W. W., Case No. 21,781, a white man, aged 52 years, was admitted to the psychiatric ward on May 1, 1933. He was hopelessly demented, and unable to give any history of his trouble. No relatives could be located, and no history could be obtained. Examination revealed emaciation, but otherwise the entire physical examination was essentially negative. Because he had a chronic cough, an x-ray examination of his chest was made on the following day, and the picture showed evidence of a diffuse area of increased density extending out fan-like from the left hilum into the lung, a very suggestive picture of primary carcinoma. He died on May 24, and since no relatives could be found, it was necessary to deliver the body to the anatomical board, and no autopsy could be performed.

COMMENT

I must offer my apology for presenting this case without verification at a scientific meeting. I have done so deliberately for 2 reasons. The first is because the X-ray picture is rather characteristic; the second reason is to show how important the X-ray may be. Here was a man, from whom it was impossible to secure any history, and the routine physical examination did not suggest the trouble. It was necessary to rely on the X-ray examination alone for the diagnosis.

SUMMARY

The incidence of cancer of the lung, like cancer elsewhere, is increasing as our life expectancy increases, and more persons live to the "cancer age." There is also an apparent increase as we search more diligently for the condition, as our diagnostic equipment is improved, and as our knowledge of this as well as other pulmonary diseases increases.

Chronic irritation, either infectious or otherwise, as a causative factor may be important.

The pathological picture, both gross and microscopic, may be varied, depending upon the type of predominating cell, upon the site of the lesion, its size and its manner of spreading.

No symptoms are pathognomonic, but a person should be warned by a persistent, often dry cough, without fever, in a person of the "cancer age." If the cough is productive, the sputum usually is of a blood-tinged, mucoid type, free from tubercle bacilli; and a careful search sometimes will reveal the presence of cancer cells. Progressively developing pain and dyspnea complete the clinical picture.

X-ray and bronchoscopic examinations are invaluable for early and accurate diagnosis, usually presenting rather characteristic pictures.

Some hope is held out for the future, depending on early diagnosis, improved surgical technic and radiation therapy.

Three proved cases of primary cancer of the lung and another case strongly suggesting it but not proved are reported briefly to illustrate the features of the disease.

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DELAYED EXTENSIVE PERIRENAL EXTRAVASATION OF URINE FOLLOWING TRAUMATIC INJURY TO A KIDNEY*

REPORT OF CASE

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During the year 1932 there were 25,455 deaths in connection with automobile accidents, a slight decrease over the preceding 2 years. When one considers that this mortality represents but a small percentage of the total number receiving non-fatal injuries, it is not surprising that so many cases of injuries to the urinary organs are being reported. In analyzing a series of 12 personal cases in which major operative procedures were necessary following traumatic injuries to the urinary organs, it was found that 6 were renal, 5 vesical and 1 urethral. There were no deaths in this series. The last case in this group presented some unusual features which I wish to submit for your consideration.

REPORT OF CASE

Mr. F. C., aged 28 years, entered Homeopathic Hospital, December 1, 1933, as a patient of Dr. Sappington. He had been injured in an automobile accident, November 1, 1933, at which time he had been quite dazed and disorientated. He was admitted to another local hospital immediately following the accident, complaining of pain in the lower left lumbar region. He was conscious at all times. There were no other subjective symptoms, and after a flat plate of the pelvis was found to be normal, he left the hospital 10 days later feeling somewhat improved. However, on November 19, he became nauseated, felt quite weak and was very tired. His condition gradually improved again until November 22, when he became nauseated once more, vomited and experienced pain in the left side of the abdomen, which radiated downward and inward. The pain was relieved by vomiting. He was confined to his bed, and on the following day had a recurrence of the gastric symptoms, at which time a member of the family noticed that his urine was blood-tinged. A local physician was called and did a gastric lavage, which revealed only mucus. However, the vomiting recurred at intervals until November 27, when he experienced severe pain in the left lumbar region and noticed a mass in the upper left abdomen which gradually became larger and very tender. The urine at this time was clear. He was informed by his doctor that he had a kidney stone and received expectant treatment until 2 days later, when Dr. Sappington was called for the first time to take charge of the case. He was then removed to the hospital. A flat plate taken by Dr. Claude Moore showed a fracture of the tenth rib on the left side, in good position. There was an excessive amount of gas in the colon with large dilated loops. It was impossible to make out the left kidney border. The edge of the right psoas muscle was poorly made out, but the left could not be seen. The next morning an intravenous urographic study was made, exposures being taken at the end of 5, 15 and 40 minutes. The right kidney was found normal in position, size and function. The left kidney pelvis was somewhat dilated, with some leakage of the drug into the lower pole (fig. 1). There was a large, firm, well defined mass entirely filling the left lumbar region extending into the flank. Physical examination was normal other than for a definite mass which could be palpated and seen in the upper left abdomen extending to the mid-axillary line. It was very tender on pressure and slightly fluctuant. On admission his temperature was 98.6°F., pulse 92, respiration 20, blood pressure

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* Read before the semiannual meeting of the Virginia, Maryland and District of Columbia Medical Society, December 6, 1933.

110/80. The leukocyte count was 6,400, the urine showing a few white cells, an occasional red cell and a few pus cells. The urinalysis was repeated the next day with practically the same findings. I saw the patient in consultation with Dr. Sappington for the first time on December 2. A diagnosis of urinary extravasation into the left retroperitoneal space was made and incision and drainage advised, which was done the following morning under spinal anesthesia. We did not believe that it was a hematoma, but rather a slow extravasation of urine, since it was first observed approximately 3 weeks after the accident. Through a left lumbar incision 1600 cc. of straw-colored fluid of a urinary odor was aspirated. The fluid was under great pressure, and there was evidence of pressure necrosis, in that the peritoneum was quite grayish in color and covered with a plastic exudate. The kidney was markedly compressed upward, the pelvis being flattened laterally. There was no bleeding, and since the kidney was greatly displaced upward it was not thought necessary to close the small tear in the lower pole. Two large cigarette drains were inserted. The patient left the operating table in good condition and was given a subcutaneous injection of normal saline on return to his bed. Four days after the operation the drainage had entirely stopped, and the patient was discharged as cured on the twelfth day.

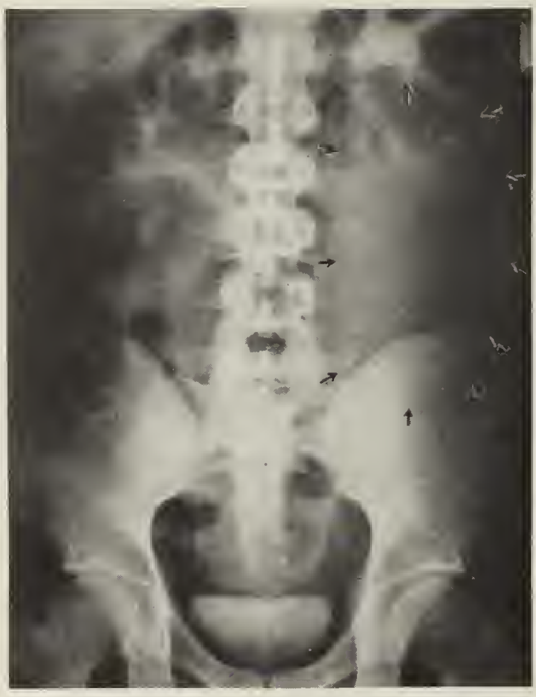

FIG. 1. INTRAVENOUS UROGRAM SHOWING RUPTURE OF THE LOWER CALYX OF THE LEFT KIDNEY WITH PERIRENAL URINARY EXTRAVASATION OF URINE (1600 CC.)

The site of rupture is shown by the arrow with marked upward displacement and lateral compression of the renal pelvis. The psoas muscle outline is obscured on the left side. The outline of the mass is shown by arrows.

COMMENT

Injuries to the kidney following traumatic accidents are not infrequently caused by fracture of the ribs. One case in this group had the upper pole of one kidney completely detached, resulting in a profuse perirenal hematoma which became evident in a short time; whereas in the present case the renal injury did not manifest itself until 3 weeks later. The late manifestation was undoubtedly due (and confirmed at operation) to a slow leak from a laceration of the kidney which extended into the renal pelvis, with a gradually accumulating extravasation of urine in the retroperitoneal space. The absence of fever, the normal leukocyte count, pulse rate and the general good condition of the patient precluded the possibility of an abscess in the perirenal tissue. This case emphasizes the value of intravenous urography as a supplement to other urinary diagnostic procedures. Since the general practitioner usually is the first to see these accident cases, he should always keep in mind the possibility of injury to such vital structures as the kidney, spleen, liver and other friable organs from the trauma produced by their impingement on the unyielding bony structures surrounding them.

Treatment of Sexual Underdevelopement in the Human Male With the Anterior Pituitary-Like Hormone of Urine of Pregnancy.—"While the greater part of the experimental work has been done on female animals, there is sufficient proof that the hormone from pregnant urine activates the gonads of both male and female." **Summary:** Thirteen boys with genital underdevelopment of varying degrees and ranging in age from 10 to 21 years were treated with intramuscular injections of the anterior pituitary-like hormone of pregnancy urine. Eleven of the subjects responded to treatment by an increase in the size of the external genitalia and the appearance of secondary sex characteristics. These 11 were obese, while the 2 who failed to respond were thin. The treatment instituted in these 2 cases was limited. Cryptorchism was present in 6 of the 13 cases, and in 4 of these 6 the testicles localized in the scrotom after treatment. In one, that of a boy 18 years of age, the right testicle was the size of a grapefruit seed localized high in the inguinal canal, while the left testicle was undefined. After daily injections of 300 units over a period of 4 months both testicles were well defined in the scrotum. . . . . Another boy with testicles in the canals that were differentiated only by local thickening was 15 years and 9 months old, when injections of 300 units, 5 days a week, were begun. After 6 months the testicles had increased to the size of hickory nuts and lay just out of the scrotum. Pubic and axillary hair, not present before, had appeared. . . . .—*Abstracted from paper read at meeting of Association for the Study of Internal Secretions at Milwaukee by* DANIEL L. SEXTON, M.D., *St. Louis, Mo., and printed in* Endocrinology, January–February, 1934.

The Fundamentals of Internal Medicine*

DISEASES OF THE HEART

(Continued from January, 1934)

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Etiologic Types of Heart Disease

BACTERIAL ENDOCARDITIS

(Acute and Subacute)

Etiology.—There is actually little difference between acute and subacute bacterial endocarditis except that the former is more rapidly fatal, usually complicates some serious infectious process elsewhere and the organisms are usually different. Both forms are known also as infective, malignant and vegetative endocarditis. In the acute form the organisms are generally the Streptococcus hemolyticus, the pneumococcus, the Staphylococcus aureus, or the gonococcus, all of about equal frequency. In the subacute form the Streptococcus viridans is responsible in 90 to 95 per cent of cases, while the gonococcus and influenza bacillus are the cause in 5 to 10 per cent. Other organisms rarely found in bacterial endocarditis are the meningococcus, the typhoid bacillus, the enterococcus, Brucella melitensis and a few more.

In the acute form the organisms enter the blood stream and attack the heart usually in the course of such severe illnesses as pneumonia, puerperal infection, acute gonorrheal arthritis, abscess, pyemia, tonsillitis, and meningitis. Death usually occurs in a few days or weeks. In subacute bacterial endocarditis the Streptococcus viridans gains entrance to the blood stream in an unknown way, probably through the throat and mainly perhaps through diseased tonsils. The patient usually lives for months.

In both forms of the disease there is a great predilection for the disease to occur in already diseased hearts, i.e., hearts affected by chronic rheumatic endocarditis or by congenital defects, although it sometimes occurs, especially the acute form, in normal hearts. The valves of the left side of the heart are more often affected, although gonococcal endocarditis often affects the pulmonary valve. In the acute form the aortic valve is more prone to attack, whereas in the subacute form (due to Streptococcus viridans) the mitral suffers more often. The congenital defects most commonly encountered are patent ductus arteriosus, coarctation of the aorta, interventricular septal defect and bicuspid aortic valve.

Although bacterial endocarditis may occur at any age, it is most common between the ages of 15 and 30 years, especially the subacute form. Males predominate in the subacute form, but in the acute variety males and females are about equally affected.

Physiological and Pathological Considerations.—Although the heart is the focus of the infection after it is established, the main manifestations are those of septicemia, and death is usually due to toxemia and anemia and not to heart failure. Vegetations of various size form on the affected valve or valves, consisting of irregular masses of fibrin, leukocytes, erythrocytes, blood platelets, bacteria and bacterial débris. These vegetations are larger than those in rheumatic valvulitis, especially in the acute form, and are more apt to involve the endocardium in the cavities of the heart adjacent to the valve and the chordae tendineae. Ulceration of the endocardium may occur with perforation of the valve leaflet or aneurismal formation (so-called mycotic aneurism). The vegetations may be very crumbly, and from time to time portions may break off and go to various organs or to the extremities, causing serious trouble. Such emboli practically never arise from the vegetations of acute rheumatic valvulitis.

Diffuse embolic nephritis and diffuse glomerular nephritis are common. The spleen is moderately enlarged and of the "septic" type. Pyemic abscesses may occur from embolism. Areas of infiltration of the interstitial tissue of the myocardium with mononuclear cells are sometimes found. Cloudy swelling of organs is commonly observed.

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* This is the fourth instalment of a treatise on Diseases of the Heart prepared to orient the older graduates of medicine in the changing concepts of diseases of the heart and to review the subject for younger graduates. Other instalments will follow until completion. If there is a demand for similar treatises on other systems of the body they will be forthcoming.

Symptoms and Signs.—The symptoms are those of any severe infection with septicemia. They are naturally more severe in the acute form. In this variety the fever is more often septic in type, with normal temperature in the morning and an elevation of 103°F. to 105°F. in the evening, and chills, sweating, prostration and delirium. In the subacute variety a septic temperature may occur, but more often the fever is not so high and tends to be irregular with frequent remissions of days. Chills and sweats occur in this variety also. There is a more or less constant tachycardia. In both forms anorexia, prostration and loss of weight and strength are usual. Embolic phenomena are frequent, with symptoms and signs dependent upon the site of lodgment of the embolus. Usually there is sudden pain in the region of the organ or extremity involved. Splenic, renal and cerebral infarctions are common.

Anemia develops always, and when severe there may be hemorrhages into the skin and from the nose, mouth, lungs and stomach. Progressive pallor of the skin is a prominent feature. Petechial hemorrhages into the skin, mucous membranes, conjunctivae and retinae occur in practically all cases (purpura hemorrhagica). They come and go, beginning as red dots which do not disappear on pressure and gradually fading away in a few days by passing through various color changes like a bruise. Petechiae under the nails are usually linear in shape ("splinter hemorrhages"). These petechiae are due to small capillary hemorrhages produced by damage of the walls of the capillaries by the toxins. Sometimes deep, tender, purplish nodules or indurated areas appear suddenly on the tips of one or more fingers or toes (Osler's nodes) and disappear gradually in a few days. Clubbing of the fingers or toes occurs sooner or later to some degree in about half of the subacute cases.

Moderate splenomegaly is present in many cases. In most instances (about two-thirds) it is just palpable with deep inspiration.

In many instances there is evidence of chronic valvular disease or a congenital defect, but in some cases the examination of the heart is negative or reveals only a systolic apical murmur. The murmurs present may vary from time to time in character and intensity. The development of a diastolic murmur in the course of the disease is pathognomonic. Arrhythmias are uncommon. Pericarditis is rare. The blood pressure may become lowered as time goes on.

The urine often contains red blood cells due to focal embolic nephritis, especially in the later stages of the disease. Albumin and casts may also be present and indicate the presence of a more serious renal lesion, diffuse glomerular nephritis. If the latter occur symptoms of renal insufficiency develop.

Examination of the blood reveals the degree of anemia and frequently a mild or moderate leukocytosis. The latter is higher in acute bacterial endocarditis. Careful blood cultures frequently reveal the causative organism, but several cultures may be necessary before the organism is grown.

The electrocardiogram reveals little as a rule except perhaps delayed auriculoventricular conduction. The roentgenogram shows nothing specific as regards diagnosis.

Course and Prognosis.—In acute bacterial endocarditis death almost always occurs in a few days or weeks from toxemia, anemia, perhaps mild heart failure and embolic phenomena. In the subacute form the condition slowly progresses practically always to a fatal termination in a few months or a year or more, the average duration being 6 months. Death is usually due mainly to a combination of toxemia and anemia. Congestive heart failure occasionally occurs. Renal insufficiency often hastens the end. Embolic phenomena increase the suffering and the rapidity of the downward course. Since in most cases the valve or valves involved are in the left side of the heart the emboli lodge in some vessel of the systemic circulation. If the pulmonary valve is involved infarcts may form in the lungs from occlusion of pulmonary vessels. Occasionally some intercurrent infection, such as pneumonia, terminates the disease.

In summary, the main features of bacterial endocarditis may be stated as follows:

1. Occurrence in young individuals already subjects of chronic rheumatic heart disease or congenital cardiac defects.
2. The presence of an irregular or septic fever with tachycardia, often with chills and sweats.
3. Prostration, emaciation and pallor.
4. Petechial hemorrhages in the skin and mucous membranes.
5. Various embolic phenomena.
6. Mild or moderate splenomegaly.
7. Sometimes clubbing of the fingers or toes.
8. Anemia and a mild or moderate leukocytosis.
9. Occasionally the development of a new diastolic murmur in the heart.
10. Evidence frequently of focal embolic nephritis or of diffuse glomerular nephritis.
11. A positive blood culture, with Streptococcus viridans predominating as the causative organism in the subacute form.
12. A fatal prognosis, with death mainly from the toxemia, after a few days or weeks in the acute form and after a few months in the subacute form.

ACUTE PERICARDITIS

(*Fibrinous and Serofibrinous*)

Etiology.—Pericardial disease is common. In some cases it is important in itself, but it is often relatively unimportant, complicating more serious general or cardiac disease. The most common form is acute fibrinous or serofibrinous pericarditis. This is often part of a rheumatic pancarditis, but it occasionally occurs in such infectious diseases as pneumonia, tuberculosis, influenza, tonsillitis and rarely as part of some obscure infection. It may occur also as part of a polyserositis.

Fibrinous pericarditis may be due also to cardiac infarction from coronary artery thrombosis which penetrates the epicardium, as a terminal event in renal insufficiency and as a reaction to the presence of a foreign body.

Serofibrinous pericarditis may be caused by any of the conditions mentioned above except renal insufficiency and coronary thrombosis. The effusion may be small in amount or very large.

When pus forms in the pericardial sac, purulent pericarditis, it does so always as a complication of some severe infection produced by pyogenic organisms elsewhere. These organisms are the pneumococcus, staphylococcus and streptococcus. They may reach the pericardium through the blood stream or by direct extension from an empyema or a mediastinal abscess.

When a hemorrhagic exudate forms, hemorrhagic pericarditis, the cause is usually either tuberculosis or metastatic involvement of the pericardium by a malignant growth. This condition is different from hemopericardium, in which there is blood in the pericardial sac because of rupture or trauma of the heart. Pneumopericardium is rare; it is due to the entrance of air into the pericardial sac from a pneumothorax, from esophageal or bronchial perforation or from faulty paracentesis.

Acute pericardial disease may occur at any age. Males are more frequently affected than females (about 3 to 1).

Physiological and Pathological Considerations.—In acute fibrinous pericarditis there is infiltration of the pericardium with mononuclear and polymorphonuclear leukocytes and formation of an adherent layer of fibrin on both surfaces. When the exudate is large the pericardium presents a shaggy appearance, and the condition has been termed "shaggy" or "bread and butter" pericardium. When healing occurs there may be only a slight thickening of the pericardium in places or more or less generally, or adhesions may form between the two layers or between the parietal pericardium and adjacent structures, viz., the mediastinal organs, the pleura, the chest wall and the diaphragm.

These adhesions may or may not be of importance. Occasionally healing leaves a thickened, contracted pericardium. The pericarditis due to infarction is limited to the region of the area of necrosis and is of no importance.

In serofibrinous pericarditis there is first a fibrinous exudation, which is followed by the accumulation of a serous exudate at a variable speed and in varying amounts, from 100 to 2,000 or 3,000 cubic centimeters. The large effusions are slow in accumulating, since the pericardium must lose its resistance and become succulent before it will stretch very much. The fluid first accumulates in the dependent portions of the sac, mainly laterally and posteriorly and mostly on the left side, but when it is large the whole sac is filled. Pressure upon the venae cavae and other mediastinal structures and upon the heart and great vessels within the pericardial sac may cause considerable embarrassment. Occasionally fluid collects locally because of adhesions between the layers of pericardium.

In purulent pericarditis the effusion contains polymorphonuclear leukocytes in varying amounts, so that it may be thick and creamy or thin and milky.

In hemorrhagic pericarditis the fluid is bloody. Usually it is serosanguinous. A cast of the heart may be formed by the blood clot resulting from rupture of the heart due to infarction, aneurism or trauma.

Symptoms and Signs.—The main symptom and sign of acute fibrinous pericarditis are variable, and may be absent. These are:

1. Pain.
2. Friction rub.

The pain occurs probably only when the pleura is also involved. It may be in the precordium, left shoulder (from diaphragmatic pleural involvement) or abdomen (rarely). It is usually sharp and either intermittent or continuous. The friction rub, often not noticed, may be heard anywhere in the precordium but is most often heard along the left border of the sternum. It is usually rough and grating, seems to be near the ear and is increased by pressure of the stethoscope. It is frequently described as a "to-and-fro" rub, corresponding inexactly with systole and diastole. Many variations occur, however, and it may be confused with cardiac murmurs or a pleuropericardial friction rub, in which event it may be heard in only one phase of respiration.

The symptoms and signs of pericarditis with effusion are likewise variable and may be absent in a large part. They are dependent upon the amount of fluid and associated conditions. They are mainly:

1. Dyspnea.
2. Weakness and faintness.
3. Precordial oppression.
4. Venous congestion.
5. Other symptoms of pressure such as cough, dysphagia and hoarseness.
6. More or less typical increase in the area of cardiac dullness.
7. Signs suggestive of pulmonary consolidation at the angle of the left scapula.
8. Enlargement and tenderness of the liver.
9. Changes in the heart sounds and in the pulse.
10. Fever and leukocytosis.

A pericardial friction rub may be present with a pericardial effusion. A rub should direct one's attention to the possibility of an effusion. With large effusions the patient assumes a characteristic sitting position, bent forward, since breathing is very difficult in the recumbent position. Percussion gives evidence of an effusion when it is large, the enlargement being globular when the patient is recumbent, pyriform or pear-shaped when he is sitting. Fluoroscopic and roentgenographic studies naturally show these changes best, and the fluoroscopic examination reveals a greatly diminished or absent cardiac pulsation. The liver may be enlarged because of compression of the mouths of the hepatic veins by the fluid in the pericardial sac. As a result of this, ascites may develop later. Rarely general edema appears. Cyanosis, bulging of the jugular veins and a visible venous pulse occur with very extensive effusions.

The heart sounds are rarely much altered, but they may be diminished and the friction rub may disappear with large effusions. The systolic blood pressure may fall, with diminution of the pulse pressure. With very large effusions the peripheral (radial) pulse may be feeble, or even absent during inspiration (pulsus paradoxus). Tachycardia is common but arrhythmia unusual.

The posterior pericardial signs with large effusions are important. These are the signs of consolidation of the lung in an area of variable size at the angle of the left scapula. They are due partly to compression of the left lower lobe bronchus against the vertebral column and partly to actual compression of the lung.

Fever and leukocytosis depend upon the cause of the pericarditis. The electrocardiogram shows nothing specific, but "low voltage" and the "coronary T wave" are sometimes found.

Paracentesis will prove the presence of fluid, but is usually unnecessary unless a purulent effusion is suspected.

Course and Prognosis.—In most cases acute fibrinous pericarditis complicates some other condition and is of minor importance and transient duration. If there is an effusion it may be absorbed without special treatment, especially in rheumatic cases. Purulent pericarditis is very serious and requires surgical drainage, but the patient rarely recovers. Withdrawal of fluid in other cases is necessary only to relieve distress from pressure. Occasionally adhesions result which produce trouble later in the form of chronic adhesive pericarditis. In many cases pericarditis is only a terminal and unimportant complication of some fatal disease. Hydropericardium is of no great importance in itself either, being part of a general dropsical condition.

CHRONIC ADHESIVE PERICARDITIS

Etiology.—The cause of chronic adhesive pericarditis is frequently an acute pericarditis of unknown infectious origin, but rheumatic and tuberculous infections are thought to be the commonest causes. The attack of acute pericarditis may not have been recognized. Occasionally influenzal or pneumococcic pericarditis may be responsible. The condition may occur at any age, the average age of recognition being 45 years. Males are more often affected than females (3 to 1). The disease is uncommon as a clinical entity.

Physiological and Pathological Considerations.—Adhesions between the two layers of the pericardium, either localized or generalized, not uncommonly result from acute pericarditis, but these do not cause cardiac embarrassment. It is only when there are firm adhesions between the parietal pericardium and the structures surrounding the heart, or when the pericardium is greatly thickened and inelastic, or both, that the heart is prevented from filling and contracting properly. If the adhesions are not too constricting the overwork of the heart may lead to great hypertrophy, but if the pericardium is greatly thickened and sometimes even calcified in part, or if the surrounding adhesions are too dense and unyielding, little or no hypertrophy is possible. Adhesions to the mediastinal contents (mediastinopericarditis), particularly about the venae cavae, can cause great trouble due to obstruction of the return flow of blood to the heart, and result in the easily recognizable picture of distended veins and edema of the upper or lower portions of the body with cyanosis due to insufficient oxygenation of the blood. When the adhesions involve the hepatic veins Pick's syndrome (mediastinopericarditic pseudocirrhosis of the liver) results, with congestion and enlargement of the liver, often perihepatitis and ascites. This is somewhat similar to but not identical with polyserositis or Concato's disease, in which there is actually inflammation of several serous membranes, such as the pericardium, the pleura and the peritoneum, often with effusion into the serous cavities. It is interesting to note that in cases of Pick's syndrome it is a rarity to find chronic valvular disease, and it is, therefore, questionable whether

(Continued on page 53)

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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RELATIONSHIP OF THE MEDICAL SOCIETY TO THE PUBLIC

The Medical Society of the District of Columbia has a meritorious record for its cooperation with the citizens of the District of Columbia in meeting the health needs for the people. A citation of what has been accomplished would fill many pages of this publication. There are ways in which the local organized profession may continue to be of real service. A grievous error would be the permitting of a concept to exist in *anyone's* mind that the profession is but a self-satisfied unit with two objectives: the development of the science of medicine and the promulgation of any activity which would have a tendency to be beneficial to the doctors' economic welfare, with a *laissez faire* attitude toward most other things. At the present time the Society is a member of the Federation of Citizens' Associations. It has two delegates through whom a voice may be expressed in local civic affairs. Whether or not the Society is taking full advantage of this opportunity to be a co-worker and an adviser on medical and sanitary problems to such organizations as the American Association of Engineers, American Institute of Architects, District of Columbia Congress Parent-Teachers Association, Connecticut Avenue Citizens' Association, Cathedral Heights-Cleveland Park Citizens' Association, Chevy Chase Citizens' Association, etc.,* is somewhat debatable. As individuals without any particular organization of effort, members of the Medical Society are appearing before lay organizations giving in the language of the layman, up-to-date information concerning common diseases and their prevention. In but rare instances is the Medical Society of the District of Columbia mentioned in these talks. In many communities there is an organized speaker's bureau, part and parcel of the local medical organization. The members of the Medical Society, working as individuals, are now giving freely of their time to this effort. Why not in each and every instance of their appearance have it definitely announced that they are appearing as representatives of the Medical Society of the District of Columbia, sent especially at the request of the organization for enlightenment on some medical topic?

Then there is the radio. This has been used frequently in this community in setting forth medical truths and in combatting false exorbitant health claims of exploiters of the public. Presidents of the Society have been heard, as well as many members *as individuals.* This is a field that is unsurpassed for the making of contact with a broad section of the public and as a consequence friends of organized medicine. The local Broadcasting Companies have generously offered to the Society their facilities. What could be of more advantage than to have the speakers announced as making their talk directly "from the headquarters of organized medicine in the District of Columbia, 1718 M Street?"

In meeting the public in the Society's building, the Medical Society of the District of Columbia has done some especially fine work. A series of Sunday afternoon talks have been given. In every instance the people have shown their appreciation by attending in large numbers and sending in requests for copies of addresses. In conjunction with the Annual Meeting, public meetings are held. This year, on the evening of May 2, a carefully selected guest speaker will, under the auspices of the Medical Society of the District of Columbia, give an address. Every effort to publicize this meeting must be made now by members in their daily contact with clientele. A more recent worthy accomplishment in the line of public contact is the adoption by the Society of a report of the Committee on Medical Economics in which Group Hospitalization, Inc., was approved. A perusal of the details of this plan elsewhere in this number of the Annals will give an idea of what this means to both the stricken layman and his family in the case of illness. For long it has been recognized that the chief item of expense involved in illness is the securing of adequate hospital care. There is no better way of having the public understand the profession and give recognition where it is due than by friendly, intimate contact, not only as individuals but as a well-united organization of physicians numbering close to 1,000.

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* There are a total of 62 organizations of citizens in the Federation of the District of Columbia.

GROUP HOSPITALIZATION, INC.

Formal Approval by Medical Society

The Medical Society of the District of Columbia gave its approval to the plan of Group Hospitalization, Inc., at its meeting on January 17, 1934. This approval was given upon the recommendation of the Committee on Medical Economics after careful study of the charter and by-laws of the organization and inclusion in them of suggestions made by the Subcommittee on Hospitals and Dispensaries. The essential elements of the plan are described in the following prospectus:

The benefits to be offered to subscribers, and the condition under which such benefits shall be available are as follows:

1. Hospital care, as defined below, shall be available 15 days after the approval of the contract, except, that in case of accident, such care shall be provided immediately after the approval of the contract.

2. The subscriber may select any hospital having a contract with the Hospital Service Association in force at the time hospital service is required; however, such service is subject to the rules and regulations of the hospital selected by the subscriber, and includes only the care of illness and injuries now accepted for treatment by such hospital.

3. Services shall be rendered under this contract only upon the authorization and request of the subscriber's physician who must be a member of the medical staff or council of, or acceptable to, the selected hospital. Hospital care shall continue only during the time that the subscriber is under treatment and care of such physician in accordance with his staff privileges at such hospital, and will end at the time that the subscriber is discharged as a hospital patient by his physician. After the date of such discharge the subscriber will be responsible to the hospital for payment of its regular charges.

4. If the hospital selected by the subscriber is not in a position to furnish the required service, the subscriber, on the recommendation of his physician shall be free to utilize the services of any other hospital equipped to give such service and participating in the Hospital Service plan.

5. Hospital care will be furnished up to and including 21 days for each contract year, during the time that this subscription is in force; such care may be given on one or more admissions, provided the aggregate days in any contract year shall not exceed 21. Additional hospital care in excess of the stipulated 21 days, if needed, will be furnished to the subscriber at a discount of 25 per cent from the regular hospital charges for similar accommodations as provided for in the contract.

6. When admitted to a hospital, a subscriber shall be entitled to occupy a bed in private or semi-private accommodations. If the subscriber desires to use more expensive accommodations, he may do so by paying, in accordance with the terms of the hospital, the difference between the accommodations occupied and the regular rate for the room and service desired.

7. Hospital care shall be construed to mean:

(a) Bed and board, general nursing care, use of the operating room, surgical dressings, ordinary medication, routine laboratory examinations, and other customary routine care.

(b) Obstetrical cases after the first ten months of the existence of this contract.

8. Services not included:

(a) The Hospital Service Association assumes no obligation other than those afore set forth.

(b) *The benefits offered by this contract shall not include the services of the subscriber's attending physician or surgeon, roentgenologist, pathologist, physiotherapist, anesthetist, special nurses, or their board.*

(c) Hospital care for pulmonary tuberculosis (after diagnosis as such), acute venereal diseases, quarantinable diseases, alcoholic or drug addict cases, mental or nervous disorders, or hospital care provided for under Workmen's Compensation Law are not included in the benefits offered by this contract.

9. In the event of widespread disaster, where the demands upon the Hospital Service Association hospitals have exceeded their utmost capacity, and after all efforts have been exhausted in meeting the pressing situation, the responsibility of providing hospital care under this contract may be discharged by refunding to the subscriber needing hospitalization, a sum equivalent to the amount that has been paid by him during the current contract year, and such payment shall constitute a full and final discharge of all obligations of the Hospital Service Association under this contract.

10. To be eligible as a subscriber to the Hospital Service Plan, a person must be:

(a) Regularly employed (not intermittently); he shall have been so employed for a period of at least two months.

(b) In an occupation such as may be approved by the Hospital Service Association.

(c) Under the age of 65 years.

(d) In sound health.

11. To be eligible as a hospital to participate in the Hospital Service Plan, a hospital should:

(a) Be approved by the Medical Society of the District of Columbia.

(b) Not engage in the corporate practice of medicine.

(c) Bind itself to remain in this hospital group only; that is, while remaining a member of the Association, the hospital shall not join or engage in any contract with any similar group.

(d) Observe the rules and regulations of the Hospital Service Association as provided for in its By-laws.

Officer Personnel

The election held on the evening of February 1st, 1934, resulted as follows:

Mr. Joseph H. Himes, *President;* Dr. Charles Stanley White, *First Vice President;* Mr. Herbert D. Brown, *Second Vice President;* Mrs. Joshua Evans, Jr., *Secretary;* Mr. Sidney F. Taliaferro, *Treasurer. The Executive Committee:* Mr. Himes, Mr. Henry P. Blair, Mr. Walter B. Clarkson, Dr. A. C. Christie, Dr. Earl B. McKinley, Mr. George H. O'Connor, Dr. White. *Finance Committee:* Brigadier General Hines, Veterans' Administrator, and Mr. William S. Corby. *Hospitalization Committee:* Mr. Corby, Mrs. Evans and Mr. Herbert D. Brown.

PRESIDENTIAL ADDRESS

The program of the Society on the fourteenth of March will include an address by the President of the Society, Dr. Prentiss Willson:

"Medievalism in Modern Medicine"

It should be noted that there is a proposed change to the Constitution which will grant authority to the President to give his address any time after January 1. In the month of May, Dr. Willson will again formally address the Society, giving an outline of the Society's activities during the year with a prospectus of coming accomplishments.

ACTIVITIES OF SECTIONS

Section on Nervous and Mental Diseases

Minutes of the Meeting Held November 2, 1933

The meeting was called to order at 8:15 P.M. by the Chairman, Dr. D. Percy Hickling. Members present were Drs. D. M. Bullard, Roger S. Cohen, Walter Freeman, H. D. Shapiro and seven guests. The minutes of the preceding meeting were read and approved. A letter of resignation of Major C. C. Odom as Vice Chairman was received and accepted. The Secretary read a communication from Dr. C. B. Conklin relating to membership in the Section and indicated his reply. The Chairman called for nominations to fill the position of Vice Chairman; Dr. Roger S. Cohen being nominated by Dr. D. M. Bullard. The Secretary was later instructed to cast a unanimous ballot for the election of Dr. Cohen.

Scientific Program

1. "Demonstration of Pathological Specimens: (a) 'Swiss-cheese' Brain. (b) Hydrocephalus." **Walter Freeman, M.D.**

Case 1: A deteriorated scheziphrenic complained of having a chicken bone stuck in his throat, but after examination, including x-ray, proved negative, the matter was set down as a delusion. The patient continued to complain and finally brought up a large quantity of blood and died within a few minutes. At necrospy part of a chicken sternum was found in the esophagus with erosion into the aorta. The brain in this case, when sections were made, was found to contain large numbers of gas bubbles spreading all through the deeper parts where the formalin could not penetrate sufficiently rapidly to kill the gas forming bacteria. It is assumed that during the period of erosion of the aorta, gas bacilli entered the blood stream and were carried through the blood circulation.

Case 2: The patient was a middle-aged white woman, a low-grade imbecile with minor neurological signs. Upon removal of the brain it collapsed like a bag but was restored to its proper shape by filling the ventricles with cooling gelatin. Upon incision there was found wide dilatation of all the ventricles except the fourth; the aqueduct being more than 1 cm. in diameter with a very tenuous roof and probably rupture. The possibility was suggested that adhesions formed between the middle and posterior fossa, producing sufficient blocking so that the fluid was retained in the anterior parts of the cranium, finally rupturing through in an abnormal location.

2. "Non-specific Myelitis or Tabes Dorsalis? Presentation of Patient." **H. D. Shapiro, M.D.**

A physician entered the Army in August 1917 at the age of 37. In April, 1918, while in the Canal Zone, he fell from his horse, injuring his back and head, and again in August suffered a lumbosacral sprain which caused him to spend 5 weeks on crutches. During his service he reported getting blood from a syphilitic patient over his face and into his eyes, but developed no primary lesion. In September, 1919, he had influenza with pleurisy and prolonged weakness. In 1920, his blood Wassermann was found weakly positive; spinal symptoms began in 1923, viz., pain and stiffness in the back and cramps in the legs. X-ray at first was negative, but later showed spondylitis. In 1924, the left pupil was larger than the right and they reacted sluggishly. The tongue showed some fibrillary tremors; his gait was rigid, his legs were spastic, his Romberg negative. There was hyperalgesia to cold on the inner surfaces of the thighs, and the soles were ticklish; Kernig and Babinski signs were positive. The knee and ankle jerks were greater on the right side than on the left and later absent. The spinal fluid showed 33 cells with positive globulin, negative Wassermann and colloidal gold curve. The condition of spasticity was practically unnoticed in 1926, and the diagnosis of non-specific myelitis, infective or traumatic, was made. However, by 1928, the tabetic syndrome was fully developed, and the blood Wassermann was strongly positive. There has been no change since then and the spinal fluid is entirely negative. The question of compensation is brought up and that of the engrafting of tabes upon a non-specific myelitis.

In discussion, **Dr. Philip Litvin** stressed the importance of the pupillary abnormalities which were present from the first and favored luetic myelitis. **Dr. D. Percy Hickling,** however, discussed the possibility of non-luetic tabes and favored the diagnosis of traumatic myelitis. **Dr. Walter Freeman** was of the opinion that the myelitis was luetic, in spite of the negative Wassermann, and that the degeneration of the roots had overshadowed the original spinal injury, changing spasticity into flaccidity. **Dr. Shapiro** stated that the patient was convinced that he had tabes, although infection was denied, but the Doctor was uncertain as to the specificity of the original disorder.

3. "Oxycephaly: Report of Two Cases." **A. Simon, M.D.**

Oxycephaly is characterized by a high tower-like skull, exophthalmos and progressive optic atrophy. It is usually acquired but is occasionally familial. The skull is peaked, with small supraorbital ridges; there are a high arched palate, shallow orbits, and depressed malar bones. In addition to the progressive blindness, hearing may be impaired intelligence is occasionally good but is usually defective. The pathogenicity seems to lie in the premature obliteration of the sutures particularly the posterior portions, so that the skull grows high and the middle fossa deep. A keel often forms on the sagittal suture; the fontanelle bulges in infancy; the optic foramen is sometimes narrow, synostosis occurs early in the palate. Similar deformities can occasionally be caused by meningitis, rickets, lymphatic dystrophy, syphilis and pituitary disorders, but the diagnosis is made by the peculiar shape of the skull and the obliteration of the sutures, the small air sinuses and the depressed middle fossa. Decompression before the age of 5 years may sometimes save vision.

Case 1 was a colored male, aged 44 years, admitted in 1916. He had a chancre in 1914 and epileptic attacks since 1915. Psychometric rating, 7½ years. His skull showed the typical deformities and there was optic atrophy. The x-ray showed the sutures filled and the sinuses small. The Wassermann was positive in 1916 but negative in 1933, and the spinal fluid is negative.

Case 2 is a colored male, aged 34 years; was admitted in 1933 with an acute psychosis with marked anemia and gonorrheal infection, possibly with endocarditis. The Wassermann reaction and spinal fluid were negative. Psychometrically this patient measures up to 8 years. There are tower skull, exophthalmos and optic atrophy with distinct binasal hemianopsia. The x-ray reveals a thin skull with closed sutures and a depressed middle fossa.

In discussion, **Dr. J. L. Gilbert** stated that many curious deformities of the skull were to be seen in negroes at Gallinger Municipal Hospital, but that in most instances rachitic or other deformities were present and that the differentiation would probably be difficult. **Dr. Simon** stated that the diagnosis was easy if the roentgenologic criteria were observed.

The meeting adjourned at 10: 15 P.M.

SOCIETIES WITH LIMITED MEMBERSHIP

Washington Medical and Surgical Society

The January meeting of the Washington Medical & Surgical Society was held at the Arts Club. Dr. Tomas Cajigas was host at a dinner preceding the scientific session. The program:

1. "Notes on Blood Pressure." Caryl Burbank, M.D.
2. "Case Report: Hemolytic Streptococcus Meningitis with Recovery." Boyce R. Bolton, M.D.

The February meeting will be held on the 26th, Dr. E. M. Ellerson acting as host. The essayist will be Dr. J. C. Eckhardt. Case reports are scheduled by Drs. E. B. Broocks and Caryl Burbank.

Pan American Medical Association

District of Columbia Chapter

The Chapter held its third meeting of the season on January 21, 1934, at the Legation of Panama. The papers presented:

1. Presidential Address by Dr. Henri De Bayle: "Pan Americanism and Medicine."
2. "A Sketch of the Life of Dr. Manuel Amador, the First President and One of the Liberators of Panama." Dr. Ricardo J. Alfaro, Minister of Panama.
3. "Report on Encephalography." Dr. Herbert H. Schoenfeld. Discussion by Dr. Walter Freeman and others.
4. "A Review of the Curability of Cancer of the Larynx." Dr. Chevalier L. Jackson, of Philadelphia. An animated discussion as to the relative advantages of surgery and radium in cancer followed, participated in by Drs. J. C. Bloodgood, of Baltimore, Victor R. Alfaro, I. Lattman and G. B. Trible.

Drs. George Bachman, Director of the School of Tropical Medicine of Puerto Rico, and J. Londres, of Rio de Janeiro, were introduced as out-of-town guests.

An interesting outline of the features of the Floating Congress, which the Pan American Medical Association is going to hold in March was given by Dr. J. J. Eller, Executive Secretary. The itinerary of the chartered ship, The Pennsylvania, will include stops at Habana, Colon, Puerto Cabello, La Guaira and San Juan, Puerto Rico. At Venezuela, the President, General Gomez, will give a reception at his country house in Maracay.

BOSTON M

Elaborate entertainments are also being planned elsewhere, especially at San Juan. Several Washington physicians have already made reservations. The "Governor" of the Congress is Dr. Charles H. Mayo, of Rochester, Minn.

Recently elected officers of the Washington Chapter of the Association are:

Henri De Bayle, *President*
Robert U. Patterson, *Vice President*
Aristides A. Moll, *Secretary-Treasurer*

MAJOR GENERAL GILCHRIST HONORED

A luncheon was held at the Army & Navy Club on Wednesday, January 31, 1934, in honor of Major General Harry L. Gilchrist, Medical Corps, United States Army, who has recently retired from active service. As Chief of the Chemical Warfare Service and as an officer of the Medical Corps, he has had a distinguished career. General Robert U. Patterson, in appropriate remarks, summarized the outstanding achievements of General Gilchrist as a medical officer, stating that he was in command of the first unit of the United States Army to join the American Expeditionary Forces, having 6 war service chevrons to attest the length of his service overseas. His work included command of the medical side of chemical warfare in the American Expeditionary Forces, and later the directing of the anti-typhus fever campaign in Poland. The attainment of the office as Chief of the Chemical Warfare Service was particularly notable as but 3 other medical officers had risen to chief of a branch other than their own. Major General Leonard Wood, Chief of Staff; Major General Fred C. Ainsworth, Adjutant General of the Army; and Brigadier General Albert J. Myer, founder of the Signal Corps and first Signal Officer, for whom Fort Myer is named, were officers of the Medical Corps. General Patterson also dwelt on the popularity of General Gilchrist; the hearty applause of his listeners indicated the concurrence of all present. An interesting feature of the luncheon was the turning over of the office of President of the Association of Military Surgeons to General Gilchrist by the former President, Assistant Surgeon General R. C. Williams, U. S. Public Health Service. General Gilchrist was elected to this office in September of last year, but on account of the provisions of law he has been unable to assume the duties thereof until his retirement from active duty. General Gilchrist responded in an appropriate manner to the remarks of General Patterson and Assistant Surgeon General Williams. In closing, General Patterson on behalf of the officers in attendance presented General Gilchrist with a brief case in token of their affectionate regard.

Those present included Major General Robert U. Patterson, Surgeon General of the United States Army; Surgeon General Hugh S. Cumming, United States Public Health Service; Admiral Percival S. Rossiter, Surgeon General, United States Navy; Major General M. W. Ireland, United States Army, retired, former Surgeon General of the Army; Brigadier General A. E. Truby, Commandant of the Army Medical Center in Washington; Brigadier General Jefferson R. Kean, United States Army, retired; Brigadier General Frank R. Keefer, United States Army, retired; Brigadier General Henry C. Fisher, United States Army, retired; and a number of other officers on duty in and around Washington.

GEORGETOWN UNIVERSITY

Dr. William P. Herbst Receives Appointment to Medical Faculty

Announcement is made of the appointment of Dr. William P. Herbst as Professor of Clinical Urology of the Georgetown University School of Medicine and chief of the Georgetown Urological Service of the Gallinger Municipal Hospital. Dr. Herbst was graduated from Georgetown University School of Medicine in 1915, serving his internship at the Georgetown Univeristy Hospital and the Columbia Hospital; in the Mayo Clinic a total of 5 years and 2 months was spent, becoming successively a fellow of the Mayo Foundation, a Master of Science in Surgery in 1923, University of Minnesota, and a staff member. Later he engaged in the private practice of urology in Minneapolis, serving on the faculty of the University of Minnesota in the Department of Urology. Dr. Herbst had two and a half years of service in the Medical Department of the United States Navy during the World War. He is a fellow of the American College of Surgeons, a member of the American Urological Association and a fellow of the American Medical Association.

ANNUAL SCIENTIFIC SESSION

May 2nd and 3rd

Speakers Announced

The Committee on Program, Dr. E. E. Hadley, Chairman, recently has furnished the information that Dr. Harry Stack Sullivan, eminent psychiatrist of New York City, will address the assembly. His subject will be, "Psychiatrical Aspects of Medical Patients." Dr. Francis Clark Grant, Assistant Professor of Neurological Surgery of the University of Pennsylvania, and the University of Pennsylvania Graduate School of Medicine, will present a paper on "Trigeminal Neuralgia." The general program and the program of dry clinics arranged by Drs. James A. Cahill, Jr., and Walter A. Bloedorn, have advanced almost to the state of completion. Get in touch with the Program Committee now should you have anything for presentation. Dr. Robert A. Bier's Committee, as speaker at the Public Meeting, expect to have an outstanding member of the profession.

BANQUET AND VAUDEVILLE

MAY 3RD

Mayflower Hotel

Dinner at 7:30 P.M.—tickets $3.00. Show on Mayflower stage later. Talent from your Society's own membership is daily practicing for this event. Remember last year! This year "Bigger and Better" is the slogan. Be sure to ask your out-of-town friends to arrange to remain for the second night's entertainment.

Robert Young Sullivan, M.D., (Seniority No. 460) who became a member of the Medical Society of the District of Columbia on October 30, 1907, and whose untimely death occurred on January 16, 1934, had been, since his graduation, active as a teacher and well known for his scientific achievements in the field of gynecology. He had attained a professorship in his alma mater, Georgetown University School of Medicine. His publications in the literature were numerous. From time to time he made presentations before the Medical Society of the District of Columbia. On April 25, 1928, he read a paper entitled, "Some of the Problems Requiring Plastic Surgery in Gynecology. End Results of Study of Endocervicitis and Relaxed Pelvic Floor." His Society activities included membership on the following important committees: Censors (two terms); Periodic Health Examinations; Program; Public Information (two terms). In addition to taking care of his large clientele, he was an active staff member at the Georgetown University, Columbia, Gallinger Municipal, and Providence Hospitals. A noteworthy characteristic of Dr. Sullivan was friendliness. He was affectionately known to hundreds both within the profession and without as "Bob" Sullivan. At the services held at St. Alban's Church on Thursday, January 18, 1934, a special committee, Drs. G. Brown Miller, Harry A. Fowler, James M. Moser, represented the Medical Society of the District of Columbia. The high esteem of the membership will be expressed in formal resolutions which will be sent to his family. He is survived, in addition to his widow, by two sons, Barry Conway Sullivan, a student at Dartmouth College, and Robert Browning Sullivan.

Francis Hannibal Miner, M.D., (Seniority No. 187) became a member of the Medical Society of the District of Columbia, April 9, 1896. With the exception of 2 years spent in Mexico, he had been in continuous practice in the City of Washington for about 45 years. His death was due to septicemia occurring on August 13, 1933. Dr. Miner devoted himself quite exclusively to surgery, at one time operating a private sanitarium. He was a charter member of the Washington Medical and Surgical Society, furnishing on occasions scientific papers. The following resolution, prepared by a special committee, was unanimously adopted by the Society on the evening of February 7, 1934:

WHEREAS, The community in general and this Society in particular having met with an irreparable loss in the death of Dr. Miner, be it herewith

Resolved, That a copy of this memorial be spread upon the Minutes of the Medical Society of the District of Columbia and that a copy be forwarded to Mrs. Miner.

GREGG C. BIRDSALL, *Chairman*,
EDGAR P. COPELAND,
THOMAS A. CLAYTOR,
Committee.

John Hathaway Lindsey, M.D., an Associate Member of the Medical Society of the District of Columbia, died at his residence in Fall River, Mass., on July 29, 1933. Dr. Lindsey, during his days of practice in Washington, previous to the World War, was known for his painstaking, scientific work. He was attached to the dispensary staff of the George Washington University Hospital. He was a writer of numerous scientific treatises. One of his books, "Medical Quotations from English Prose," affords a most useful resume of medical quotations, taken from writers on various subjects extending over a long period of time. In his later years spent in Fall River, his practice was limited to radiology. His loss as a member is deeply felt by all those who knew him.

REPRINTS RECEIVED

The following reprints have recently been received for which due acknowledgment is made:

"Subastragaloid Dislocation of the Foot. Report of Case." Radiology, January, 1930, Joseph F. Elward, M.D., and Laurence S. Otell, M.D.

"Aneurism of the Aorta." Virginia Medical Monthly, October, 1931, Joseph F. Elward, M.D.

"Psychic Impotence. Case Studies." The Psychoanalytic Review, July, 1933, Ben Karpman, M.D.

"Acute Post-operative Gastric Dilatation Treated with Insulin—With a Case Report." Virginia Medical Monthly, December, 1933, William J. Mallory, M.D.

"Medical Aspects of Carcinoma of the Colon." Journal of the Medical Society of New Jersey, 1933, William J. Mallory, M.D.

"Chronic Peptic Ulcer in Childhood." Journal of Pediatrics, October, 1933, Charles S. White, M.D.

"Hemangio-Endothelioma of Omentum." American Journal of Surgery, November, 1933, Charles S. White, M.D.

DISEASES OF THE HEART

(Continued from page 47)

rheumatic infection is responsible in such cases. Eventually in some cases of adhesive pericarditis cardiac embarrassment leads to congestive heart failure.

Symptoms and Signs.—In those cases in which the adhesions or thickening of the pericardium cause cardiac strain, symptoms and signs of venous obstruction or congestive heart failure result, with or without enlargement of the heart. The heart is often found to be fixed in its position as demonstrated by failure to shift when the body is moved from the supine to the lateral position, a condition elicited either by physical or X-ray examination. Distortion of cardiac outline may also sometimes be demonstrated. Retraction of the lower end of the sternum on inspiration is sometimes noted, and rarely Broadbent's sign is present, namely, systolic retraction of the chest wall in the left axillary region and back. Ascites may be the first and most prominent finding, associated with a little dyspnea on exertion; it is present usually long before other evidence of congestive failure is noted.

A murmur may be noted, usually systolic, sometimes diastolic, and auricular fibrillation may exist. The blood pressure is low. The electrocardiogram shows low voltage and failure of the electrical axis to shift with change of body position. Of all of the signs, failure of the heart to shift with change of posture, and ascites are the most important.

Course and Prognosis.—When the pericardial involvement is marked, chronic invalidism results, due to venous obstruction and chronic passive congestion.

(To be continued)

CONTAGIOUS DISEASE REPORT

December, 1933

Health Department, District of Columbia

	Morbidity	*Mortality*
Typhoid fever	9	2
Typhus fever	0	0
Smallpox	0	0
Measles	125	0
Scarlet fever	75	1
Whooping cough	70	5
Diphtheria	52	3
Influenza	9	3
Poliomyelitis	2	1
Encephalitis-Lethargica	0	0
Epidemic Cerebrospinal Meningitis	3	0
Tuberculosis (all forms)	88	41
Syphilis	367	8
Gonorrhea	148	0
Chickenpox	44	0
Chancroid	5	0
Pellagra	1	0
Pneumonia (all forms)	177	85

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III MARCH, 1934 NUMBER 3

ANGINA PECTORIS

A CONSIDERATION OF SOME OF THE RECENT LITERATURE, WITH PARTICULAR REFERENCE TO THAT RELATING TO CAUSE AND TREATMENT*

WILLIAM H. RESNIK, M.D.

Stamford, Connecticut

In 1768, in a brief communication that is remarkable for its clarity and, as we know now, for its completeness, William Heberden (1) gave his classic account of an illness that he named angina pectoris. He described the substernal pain that frequently radiates to the left arm and occasionally to the right, the relationship of the onset of the pain to effort, the influence of emotional disturbances and of eating, the prompt cessation of pain on discontinuance of the effort, the absence of shortness of breath and of any striking alterations in the pulse during the paroxysm, the frequency of the symptoms in males past 50, the gradual appearance of attacks when the person is lying down, the occasional paroxysms of longer duration, and finally the remarkable termination of the illness. "For," (he states) "if no accident intervene, but the disease go on to its height, the patients all suddenly fall down and perish almost immediately."

There is already such a large literature dealing with angina pectoris and coronary occlusion, that one more systematic description would prove to be merely repetitious. Consequently, at the risk of discussing the subject in a somewhat disconnected fashion, it may be more profitable to review some of the more recent work, particularly since in the last few years there have appeared a number of papers that have thrown considerable light on the nature of angina pectoris and that have introduced methods of treatment that differ radically from the older ones.

ETIOLOGY, PATHOLOGY AND PHYSIOLOGY

In the 165 years that have elapsed since Heberden's first communication, numerous hypotheses have been advanced to explain the cardinal features of angina, namely, the pain and the frequency of sudden death. Two have survived: the "coronary" theory which attributes angina to an inadequate blood supply or oxygen supply to the myocardium; and the "aortic" theory which explains angina as being due to stretching of an irritable aorta. There are many reasons why this controversy has lasted for so long a time, and they need not all be detailed here. One of the chief has been the varying conceptions that have been held regarding the types of illness that should be included under the term angina pectoris, the result being that many totally different clinical conditions have been called antina pectoris, even though there has been in many instances little or no similarity with the clinical picture portrayed so clearly by Heberden. I wish to make it clear at the outset that this discussion is concerned with the latter condition, namely, the angina of Heberden. Among other causes for failure to arrive at agreement regarding the nature of angina may be mentioned: (1) The frequent finding of marked coronary sclerosis without angina having been present during life. This question may be dismissed at once by the statement that it has been amply proved that an adequate blood flow to the heart muscle formerly nourished by the obstructed vessel may be supplied by (a) the extensive collateral anastomoses that develop between the branches of the coronary arteries with advancing years; and (b) the thebesian vessels (2). (2) The occasional observation of unquestionable cases of typical effort angina, which have been proved at autopsy to be free of coronary disease. (3) The lack of evidence that the heart was actually involved during the attack of angina. (4) The obvious difficulty of performing controlled experiments dealing with a subjective symptom such as cardiac pain. For there has been question whether pain could arise in the heart muscle since mechanical and chemical stimulation do not cause any painful sensations. While nature's own experiment of suddenly and completely occluding by thrombosis a coronary artery in man has proved beyond any question that pain can arise in the heart muscle, coronary thrombosis and angina pectoris have been considered by some two entirely distinct and unrelated conditions, and it was still desirable to prove that temporary interference of the blood supply could similarly cause pain.

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* Read before the Society, January 17, 1934.

The last problem has been solved by the experiments of Pearcy, Priest and Van Allen (3) and by the more comprehensive work of Sutton and Lueth (4). These investigators studied the effects of temporarily occluding the coronary vessels in unanesthetized dogs and found that invariably there was evidence of production of pain apparently referred to the left foreleg. Sutton and Lueth also demonstrated that in a number of instances occlusion of a coronary artery was followed by the onset of ventricular fibrillation and instant death. Most important of all, *they were able to show that stretching of the aorta was without effect in causing pain and that cardiac pain could be elicited only by obstructing the blood supply to the myocardium.*

The fact that during the attack the heart exhibits no important alterations of sound or rhythm or rate has been forwarded as evidence that the heart muscle does not participate in the paroxysm. But this argument has been met by the demonstration that patients with angina do actually have during the attack temporary electrocardiographic changes of the type but not the extent seen in acute coronary occlusion (5). Similar observations have been made by Wood and Wolferth (5c) in experimental temporary coronary occlusion in dogs.

I have mentioned that there is in the literature a small number of cases of typical effort angina that have come to autopsy and have been found to have coronary arteries that are free of sclerotic changes. In most instances these cases turn out to be cases of aortic insufficiency. Of this small group a certain proportion has an appreciable degree of coronary obstruction, caused either by stenosis of a coronary ostium by syphilitic changes at the base of the aorta, or by inflammatory changes in the coronary arteries resulting from acute rheumatic fever (6). However, even when these are eliminated there still remain cases of aortic insufficiency associated with angina and without any demonstrated obstruction of coronary flow.

The relationship of coronary flow to the various phases of the cardiac cycle is still a controversial one, but the work of Anrep, Davis and Volhard (7) and of Wiggers and Cotton (8) seems to have demonstrated that the blood flow through the myocardium is greatest during diastole and is largely dependent on the level of diastolic pressure. The level of diastolic pressure is characteristically low in aortic insufficiency, and it may be presumed that in these cases there is a corresponding reduction of blood flow to the heart. Moreover, Smith, Miller and Graber (9) have actually demonstrated a considerable diminution in coronary flow when aortic insufficiency is experimentally produced. These observations probably explain the occasional occurrence of angina in aortic insufficiency even when the coronaries are free, the impairment of blood supply to the heart having here a physiologic rather than an anatomic basis.

Assuming for the moment that an inadequate blood supply to the myocardium is responsible for the pain in angina, the question has been raised whether the pain is due to the lack of oxygen (anoxemia) or to the accumulation of pain-producing substances from an insufficient flow of blood (ischemia). Lewis, Pickering and Rothschild (10), working with the muscles of the forearm, came to the conclusion that ischemia rather than anoxemia was responsible for the development of pain when the muscles were worked with the circulation occluded. Aside from the fact that their evidence is indirect and inconclusive and does not account for those cases of angina due to severe anemia, where the quality and not the quantity of blood is responsible for the appearance of anginal pain, more direct and convincing evidence has been offered by the experiments of Rothschild and Kissin (11), who subjected patients to progressively increasing degrees of anoxemia, accomplished by gradually lowering the oxygen tension of the inspired air. None of the control subjects, some of whom suffered from heart disease without angina, developed pain. On the other hand, most of the patients with angina developed characteristic pain when the oxygen content of the inspired air had fallen to 8 to 11 per cent or less. The pain disappeared within a short time after air containing the normal percentage of oxygen was admitted to the lungs. These experiments are particularly significant with reference to the influence of anoxemia, since the available evidence is that a diminished supply of oxygen to the heart dilates the coronaries (12). In other words, the lowered oxygen content of the blood in Rothschild and Kissin's patients with angina brought on pain even though it is probable that whatever change there was in coronary flow was in the direction of an increase.

While there seems to be no doubt about the presence of a coronary-dilating mechanism to meet the demands of the heart for an increased flow, the existence of an effective constricting mechanism is debatable. The presence of coronary constrictors rests chiefly on the work of Anrep and Segall (13) who observed a diminution of coronary flow in the heart-lung preparation when the vagus nerve was stimulated. Coronary spasm has been considered a cause of angina, and the proof of such a hypothesis would depend on the demonstration that there can take place a vasoconstriction sufficiently great to diminish the coronary flow to a point where it is inadequate for the needs of the heart. Interesting observations dealing with this question have been made by Wayne and Laplace (14). They found that when patients with angina of effort performed a standardized exercise, pain appeared within relatively narrow limits of time for the individual, so giving the observers a control with which to check their experimental observations. When atropine was given intravenously, paralyzing the vagus and presumably the vasoconstrictor fibers, anginal pain was more severe and was brought on by less effort than was necessary to induce pain when the vagus nerves were intact. Conversely, when the vagus nerve was stimulated by pressure over the carotid sinus during an attack of angina, the duration of the pain was shortened. Now, in the heart-lung preparation, keeping the heart rate and circulatory minute volume and blood pressure constant, stimulation of the carotid sinus causes a diminution of coronary flow (a vagal effect). At first glance the clinical observations appear to be at variance with the experimental, since according to the latter, stimulation of the vagus should tend to favor the development of angina by diminishing the blood supply, whereas clinically paralysis of the vagus acts in this direction and stimulation of the vagus tends to abolish the pain. The explanation of these apparently contradictory results comes from the fact that in man vagal stimulation has more complex effects than simple coronary constriction (assuming that this takes place in man as it does in dog). At the same time the blood pressure tends to fall, which would reduce the coronary flow still further; but the drop in blood pressure and the slowing of the heart rate would also bring about a diminution of the energy expenditure of the heart. The final result would depend on the arithmetical sum of these various factors. So far as the patient with angina is concerned, the total effect of vagal stimulation appears to be a favorable one, apparently increasing coronary flow relative to the energy expenditure (that is to say, oxygen needs) of the heart, even though the absolute amount of blood flowing through the coronaries may be diminished. These observations indicate that even if vagal stimulation does produce coronary vasoconstriction in man, the diminished blood flow is ineffective in causing a relative anoxemia of the myocardium. In other words, it is improbable that coronary spasm can act as a cause of anginal pain.

Other observations on patients with angina have been noted by Lewis (15) and by Wayne and Laplace (14) that have a bearing on hypothesis that anginal pain arises as a result of stretching of the aorta through increased blood pressure. Indeed, it has been found that following the administration of amyl nitrite the pain may disappear even though the blood pressure remains at the same level or is actually higher than was present during the attack. Their observations are not only opposed to the aortic theory of anginal pain, but they indicate that the nitrites act beneficially in angina not only by reduction of the blood pressure (and hence by reducing the work and the oxygen needs of the heart) but also, and apparently in some cases entirely, by actively dilating the coronary vessels.

If, now, we summarize the results of these various investigations, we find: that experimentally cardiac pain can be produced only by obstructing the blood supply to the myocardium; that electrocardiographic evidence proves that the heart is altered during the attack of angina; that the diminution of coronary flow during diastole probably explains the occasional presence of angina in aortic insufficiency even when the coronaries are unobstructed; that anoxemia rather than ischemia is probably responsible for angina; that it is improbable that coronary spasm causes angina; that the available evidence is strongly opposed to the aortic theory; that the beneficial action of the nitrites is chiefly exerted by virtue of their capacity to dilate the coronary vessels.

All these observations together with the evidence that has previously been adduced (16) and that I have not discussed lend further strength to the theory that the angina of effort described by Heberden is due to a disproportion between the oxygen needs of the myocardium and the oxygen supply. In other words, angina is due to a relative anoxemia of the myocardium. Inasmuch as in patients suffering from angina of effort this failure of oxygen supply to keep pace with the needs of the heart is practically always due to coronary sclerosis or closure of a coronary ostium, we have finally returned to the opinion expressed by Parry (17) in 1799:

"Though a quantity of blood may circulate through these arteries, sufficient to nourish the heart, as appears, in some instances, from the size and firmness of that organ, yet there may probably be less than what is requisite for ready and vigorous action. Hence, though a heart so diseased may be fit for the purposes of common circulation, during a state of bodily and mental tranquillity, and of health otherwise good, yet when any unusual exertion is required, its powers may fail, under the new and extraordinary demand. Accordingly we find, that paroxysms of the Syncope Anginosa are readily excited by those passions, the tendency of which is to stimulate the heart to excessive contraction."

I am aware of the very rare instances in which cases of typical angina have been found at autopsy to be free of any lesion that might have caused a relative anoxemia of the myocardium. For the present these must remain unexplained. But it is well to keep in mind the admonitions of Benson (18) and of Sutton and Brandes (19) regarding the occasional great difficulty of locating a small thrombus or stenosis of a small coronary branch.

This view not only explains satisfactorily all of the major phenomena that are seen in Heberden's angina but it accounts also for the important clinical features of acute coronary occlusion, if we take into consideration that as a result of the complete and permanent restriction of blood supply to a portion of the myocardium, an infarct and its resultant effects develop. Acute coronary occlusion becomes then a special form of angina pectoris, and it is identical with the status anginosus of the older writers. To repeat the words of Parkinson (20):

"It would be a relief to the profession if this protracted discussion on the precise meaning of angina pectoris and its root cause could be ended in agreement. . . . What now needs emphasis is the essential unity of angina pectoris and coronary thrombosis."

DIAGNOSIS

Now this piling up of proof that angina is due to a relative anoxemia of the myocardium is important not only from a theoretical standpoint, but also from the more practical standpoint of diagnosis. For if the syndrome described by Heberden is due to a disproportion between the work done by the heart and its blood supply, then the cardinal importance of effort to the appearance of the chest pain becomes manifest. If we are confronted with a patient who complains of a pain or distress that may arise in the heart, we must determine at once whether or not this distress is brought on by any circumstance that increases the activity of the heart; and usually this is most easily elicited by determining the effect of a muscular exercise. If the pain or feeling of pressure is clearly provoked by muscular activity such as walking rapidly up an incline and disappears within a short time after the effort is stopped, we are probably dealing with angina pectoris. We can go still farther. If we have established the characteristic relationship of the onset and disappearance of pain to the state of muscular activity, we can in the absence of aortic insufficiency, profound anemia, or hyperthyroidism, state with a high degree of assurance that the patient's symptoms are the result of coronary sclerosis or partial or complete occlusion of a coronary ostium. If hyperthyroidism or a severe grade of anemia or aortic insufficiency are present it is still probable that some degree of coronary obstruction exists. On the other hand, if the pain appears at rest, and has never been provoked by muscular effort, and we can eliminate those special forms of angina due to an acute coronary occlusion or to aortic insufficiency (15), or to paroxysmal tachycardia (21), the burden of proof rests with him who says that we are dealing with a case of angina. I realize that in reducing the question of diagnosis of angina to a matter of determining the relationship of the pain or distress to muscular activity I am really over-simplifying the case. The age of the patient, an estimate of his response to painful stimuli, a careful study of the type of pain and its distribution, the influence of emotion, eating, etc., the effect of nitrites are important; but of primary importance is the influence of effort. There are instances in which a definite diagnosis is not only difficult but impossible; but in most cases a careful study of the symptoms will permit one to arrive at an accurate diagnosis with a considerable degree of certainty. Moreover, it should be emphasized that angina may exist in the absence of any objective evidence of heart disease, either from the physical examination, or the X-ray, or the electrocardiogram. *The symptoms alone, if characteristic, are sufficient to establish the diagnosis.*

While our knowledge of the acute coronary occlusion has been greatly increased by the extensive literature that has appeared particularly in the last decade, we still are confronted with cases that leave us in doubt as to the presence or absence of this condition. Occasionally the diagnosis is clarified by electrocardiographic study and the discovery of typical alterations in the RS-T interval or the T wave or the Q-R-S complex. These variations in the electrocardiogram become even more important when they are progressive and change from day to day. But frequently the electrocardiogram presents no characteristic changes and fails us when we need its aid most. The recent work of several investigators (23) is of great importance in this regard. They have shown that probably all patients suffering from acute coronary occlusion do exhibit electrocardiographic changes, but that these alterations sometimes fail to register when the conventional limb leads are employed. If the electrodes are properly applied to the chest, important and usually specific alterations are demonstrable in just those cases in which the electrocardiogram taken in the usual manner has shown no changes. Further studies with chest leads remain to be done; but already they promise to be of material assistance in establishing an otherwise uncertain diagnosis in cases of acute coronary obstruction.

It has now been reasonably well established that anterior and posterior infarctions have distinctive types of electrocardiographic change (24), and it is possible that this method of localizing the infarct may prove to be of some assistance in arriving at a prognosis. The observations of Evans and Hoyle (25) may also turn out to be of importance in estimating the status of the patient. They found that in a certain percentage of patients with coronary disease, the negative T wave could be temporarily changed to an upright T by administering nitrites. They attributed this result to the opening up of anastomotic vessels in the region of the infarcted area; and they suggested that the fixed T wave and the one elevated by nitrites may have a different significance, and that the effect of nitrites may prove to be a measure of the collateral circulation around a damaged portion of the myocardium.

The frequency with which acute coronary occlusion simulates acute abdominal conditions has been sufficiently emphasized so that further comment is unnecessary. However, I should like to mention briefly two other conditions that may present difficulties of diagnosis. That paroxysmal tachychardia may be associated with anginal pain has been known; but Wolff (21a) and Sproull (21b) have reported cases in which not only has anginal pain been present, but it has been of such duration and severity that the cases have been confused with acute coronary thrombosis with infarct formation. The difficulty of diagnosis may be further increased by the facts that occasionally paroxysmal tachycardia may arise after an acute coronary occlusion has taken place, and that leukocytosis and fever may be present in paroxysmal tachycardia, as they are after coronary thrombosis. In these cases, the differentiation from acute coronary occlusion, important from the standpoint of treatment and prognosis, must rest chiefly on the establishment of the onset of pain with or after the development of the abnormal rhythm.

Dissecting aneurism of the aorta is another condition that may closely resemble acute coronary occlusion (26). The multiplicity of symptoms and signs that are associated with it dependent on the extent and distribution of the lesion, its rarity, and the frequency with which it is accompanied by a rapid exitus contribute to the difficulty of diagnosis attested by the fact that there are only 6 or 7 reported cases in the literature in which the diagnosis has been made during life. Moreover, the type and severity and duration of the chest pain are such that it is usually considered as arising from a coronary thrombosis. I am not aware of any single pathognomonic sign, and the diagnosis will probably depend on keeping in mind the existence of such a condition, its usual occurrence during periods of muscular exertion, the migratory character of the pain and its apparently more frequent radiation to the back than occurs in coronary thrombosis, the occasional evidence of mediastinal pressure or of obstruction of one or more of the branches of the aorta, the finding of an unexplained aortic insufficiency, or of blood in one of the pleural cavities. The X-ray may be of assistance and also the usual absence of those electrocardiographic changes that are characteristic of acute coronary occlusion.

TREATMENT

The general principles of the treatment of angina pectoris are so well known that repetition now is unnecessary. Aside from the infrequent cases in which severe anemia, hyperthyroidism, paroxysmal tachycardia or syphilitic lesions at a coronary ostium act as important, directly contributing factors in causing angina and in which appropriate measures sometimes bring about striking relief of symptoms, the present medical treatment resolves itself into giving nitrites for the attacks and otherwise treating the individual rather than the disease; that is to say, eliminating, so far as possible, those circumstances that we know may facilitate the onset of a paroxysm. However, certain observations should be mentioned that have some interest with regard to medical treatment.

The improvement and in a few cases the complete relief of symptoms in coronary disease depends apparently on the development of adequate anastomoses between the more patent coronary vessels and also the thebesian vessels and those through which the circulation is impeded. The xanthine derivates such as metaphyllin have been given for this purpose. While they undoubtedly increase coronary flow in experimental animals, their clinical effect has usually been disappointing. Indeed, Evans and Hoyle (27), after carefully studying a large number of drugs commonly used for this malady reach this conclusion: "We have been unable to convince ourselves that any drug tested is worthy even of trial in the routine treatment of the disease." Conner (28) has recommended the use of carefully graded calisthenic exercises as a means of encouraging the establishment of an anastomotic circulation. The value of such a procedure is open to the same doubt that must be attached to any whose effect is gradual and that is used in a condition that is subject to spontaneous alterations over a long period of time. However, the occasional case in which benefit seems to have resulted from the method, and the harmlessness and ease of carrying it out, suggest its further trial. It is interesting that Heberden makes the following statement: "I knew one patient who set himself a task of sawing wood for half an hour every day, and was nearly cured."

Another method of medical attack has been proposed by Smith (29) in the use of insulin and glucose, on the assumption that defective carbohydrate combustion in the heart muscle in the presence of an inadequate supply of oxygen is responsible for anginal pain. To a small but carefully selected group of patients he administered 5 units insulin before breakfast and before the evening meal, following each dose by giving 30 grams of glucose by mouth taken with the meal. Decided improvement resulted in all cases, and in some the benefit persisted after the insulin and glucose were discontinued. He attributed these lasting effects to a possible removal of such fatty accumulations as had developed in the deeper layers of the coronary vessels, before cell necrosis (an irremediable process) had taken place. Of all forms of medical treatment of which I am aware this one seems to have been attended by the most striking benefit. Thus far, I have had no personal experience with it, having been influenced by the reports of the occasionally disastrous results that have followed the use of insulin in cases of coronary sclerosis (30). Although it has been stated that insulin is hazardous to diabetic patients with heart disease receiving even therapeutic doses (30e) it should be emphasized that practically all of the harmful effects of insulin seem to have arisen from the inadvertent production of hypoglycemia in diabetics with cardiac lesions. Further reports on the effect of such small doses of insulin as Smith recommends should be awaited with considerable interest.

The prognosis in both angina pectoris and acute coronary occlusion is always uncertain; for aside from other considerations, there always exists the over-hanging sword of Damocles, namely, the possibility of sudden death. The best evidence that we have points to the conclusion that the sudden death that is so common in angina pectoris is probably due to the onset of ventricular fibrillation; and this is also true of most cases of acute coronary occlusion when the sudden exitus has not occurred as a result of rupture of the ventricle. Quinidine has an effect on the ventricles similar to its effect on the auricles (31); that is to say, it influences heart muscle in such a way as to usually oppose the appearance of fibrillation. Moreover, it has been demonstrated experimentally in both the cat (32) and dog (31) that fibrillation is induced with much more difficulty when the ventricle is subjected to faradic stimulation if the animal has previously been quinidinized. These observations suggest the advisability of constant administration of quinidine to patients with angina or with coronary occlusion as a prophylactic measure (33, 34).

The operative treatment has been of two chief types. The earlier involved the removal of some part of the cervical sympathetic system or of the supposed depressor nerve. The merits of this procedure have been reviewed by Yater and

Trewhella (35), and it will suffice to present their conclusions. In favor of such an operation are the facts that 40 per cent obtain complete relief and the immediate operative mortality is low (1.8 per cent), provided cases of angina associated with syphilitic aortitis are eliminated. Against the operation are the facts that 26 per cent received no relief, that there appeared in 31 per cent of the cases new pains or paresthesias often of considerable severity, and that the course of the disease is apparently uninfluenced.

Paravertebral block first used by Swetlow and developed by him (36) and by White (37) is a non-operative method of accomplishing what is attempted by the operative removal of the sympathetic ganglia and nerves carrying the pain fibers from the heart. In humans, the exact pathways for the sympathetic afferent fibers that convey the pain fibers from the heart are not known; but ultimately they must cross to the central nervous system by way of the rami communicantes to the sensory root ganglia, usually from the levels CVIII to DVII. White's method is to use a preliminary injection of procaine in the region of the root ganglia and the rami communicantes to determine the exact levels of the pain fibers in the individual case, and then to obtain permanent block by means of alcohol injection. On the whole, paravertebral block is the preferable procedure, as there is no operative mortality, there are no major complications when the method is carried out by those skilled in the technic, and the final results are better, about 50 per cent receiving complete relief and an additional 25 per cent being much improved. This type of treatment is purely palliative and is to be employed when the frequency and severity of the attacks of pain persist in spite of the usual medical measures and constitute a serious handicap to the patient.

The second method of operative treatment, namely, that of total thyroidectomy, has been proposed by Blumgart, Levine and their associates (38, 39, 40) for both angina pectoris and congestive heart failure. Its use was suggested by several closely related observations: the occasional case in which the appearance of anginal pain is clearly related to the administration of thyroid extract; the occasional disappearance of angina following thyroidectomy in patients suffering from hyperthyroidism; the striking and usually permanent relief of myocardial failure associated with hyperthyroidism following thyroidectomy; and the improvement in one of Levine's patients with congestive failure following the removal of a thyroid gland that proved to be normal on histological examination. The common factor in all these cases was the improvement that was coincident with the reduction in the basal metabolic needs of the body; or stated in another way, improvement resulted when the load on the heart was diminished to a level that conformed with the capacity of the heart.

A number of factors are probably concerned in bringing about a favorable result following thyroidectomy, the following probably being most important: the reduction of the oxygen requirements of the heart by the reduction of the basal metabolic rate; the favorable effect of the slowing of the heart rate through the diminution in the amount of work required of the heart, possibly through the more efficient utilization of oxygen at slower rates (41) and through lowering the rate to a level that is nearer its optimum, as suggested by the work of Harrison, Ashman and Larson (42) on the relationship of heart fiber thickness and heart rate. In addition, Levine suggests that the thyroid may have some influence on the heart, aside from its effect on the basal metabolic rate, since in some cases angina disappeared after thyroidectomy at a time when when the metabolism was still unchanged.

Blumgart, Riseman, Davis and Berlin (39) have reported 11 cases and Levine, Cutler and Eppinger (40) 12 cases of heart failure, including both congestive and anginal types, in which a normal thyroid gland was removed. There was 1 postoperative death and 3 other deaths within a short time following operation. Thus far, an appreciable and sometimes brilliant improvement has been observed in most of Blumgart's cases. The results in Levine's series are less impressive. However, too short a time has elapsed to permit one to venture an opinion regarding the ultimate merits of the method. So far as angina pectoris is concerned, it is more than a palliative treatment, even though it does not remove the coronary sclerosis that is the anatomic basis for most cases. But it does help to correct the physiologic disturbance that is responsible for the symptoms; that is to say, the disproportion between the needs of the heart and its blood supply. How far this improvement will be opposed by the increased tendency for arteriosclerosis to develop in myxedema, to what extent the patients will be handicapped by the total removal of the thyroid, how much the likelihood of coronary thrombosis will be increased as a result of the slowing of the velocity of blood that follows thyroidectomy, are some of the questions that will be answered only by careful observation over a long period of time.

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COMMON SKIN DISEASES*

With Especial Reference to Their Treatment

Charles B. Campbell, M.D.

Washington

It is a well known axiom that we pay the least attention to those things we are most accustomed to seeing. This is true of the skin. Generally it is considered just a covering of the body—when, in fact, it is an important organ with true physiological functions. When the skin becomes disordered the whole body becomes affected.

Realizing the importance of correct diagnosis and treatment of skin conditions, I have prepared this paper. It will deal with common skin diseases, with especial reference to their treatment.

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* Read before the Society, January 31, 1934.

The late Dr. T. Gasper Gilchrist often told his Johns Hopkins medical students: "There are two kinds of skin diseases, namely, 'Tis eczema and 'Taint eczema, and salicylic acid is good for both of them." The correct diagnosis and treatment of skin conditions, however, is not so easy as this statement would infer.

To the medical student and to the practitioner we emphasize the importance of diagnosis. The watchword of the profession has been "Diagnosis is the thing." This is emphatically true in skin lesions. Error in diagnosis leads to wrong treatment, which retards the cure and often makes the condition worse.

"Dermatology represents one of the fields of medicine that receives little serious attention from the general practitioner. It is well, therefore, to remind him that statistics collected by Dr. Herman Goodman of New York City, of various cutaneous disorders most commonly encountered, belong in few categories.

"Eleven groups include nearly three-fifths (57 per cent) of all diagnosis. This is for nearly one million published cases, extending over a period of 50 years of modern dermatology.

"The list of common skin diseases has varied little despite recent advances in aids to diagnosis. This means specifically that every practitioner should become familiar with eczema, acne, scabies, seborrhea, dermatitis venenata, urticaria, psoriasis, impetigo contagiosa, ringworm, alopecia, and pruritus. These are the common skin diseases he will see and be asked to treat." (Editorial, J. A. M. A., October 26, 1929.)

The percentage of incidence of the most common diseases of the skin is as follows:

	Per cent
Eczema	21
Acne	10
Urticaria	5
Scabies	5
Dermatitis Venenata	5
Psoriasis	4
Impetigo	3
Ringworm	3
Alopecia	1
Seborrhea	4

There are over 200 skin diseases. To know their pathology, histology, diagnosis and treatment makes a dermatologist a real specialist. But these 11 skin diseases comprise 57 per cent of the cases. If the internist, pediatrician or surgeon would learn the characteristics and symptoms of just 11 dermatoses, he would be able to treat three-fifths of all cases that come under his care. Then one would not so often hear physicians say: "I don't know a thing about skin diseases."

Radiotherapy and other physical agents are great aids in the treatment of skin diseases, but I shall not mention them, since this paper is for the general practitioner. Also, inasmuch as pruritus is a symptom and not a disease, this condition will be omitted. Alopecia is not a single disease and should always be treated by a dermatologist.

ECZEMA

This leads the list of skin diagnoses with 21 per cent. It is the bugbear of the medical profession. Many dermatologists try to eliminate the name. Its characteristics place it in a class by itself, and since it must have a nomenclature, "eczema" is as good as any.

The word means "to boil out." The ancient physicians thought it was a humor in the blood and "boiling out" was the skin manifestation. Malcolm Morris, the English dermatologist, in his book "Diseases of the Skin" says: "If we know the cause, it is not eczema; if we do not know the cause, it is eczema."

Eczema is never a primary disease. It is due to some external irritant, such as strong soaps, chemicals, wool next to the skin, ringworm fungus, and contact with certain plants. Or the internal cause is the ingestion of certain foods, namely, a too liberal amount of fats or carbohydrates. This is particularly true in young children.

There is always itching and moisture. Objective lesions are papular, vesicular, squamous, rubrum, fissured and erythematous. These objective manifestations vary in form depending on duration and type. There are 3 varieties, namely, acute, subacute and chronic. Eczema begins with a papular eruption, but is modified by scratching and duration. In children it is papular and vesicular and is confined usually to the scalp and face.

Treatment.—Limit the use of soap and water; substitute olive oil as a cleansing application. Prescribe a neutral superfatted cold-cream soap. If necessary, prohibit the wearing of wool, rayon, or other irritating apparel next to the skin. As in practically all diseases of the skin, the less bandaging, the better. Open-air treatment is preferred. Let the skin breathe. This is particularly applicable to eczema.

The 3 varieties of eczema should receive different treatment. Acute cases require a mild antiseptic, sedative lotion, such as, saturated solution of boric acid, or 10 per cent bicarbonate soda solution. The subacute cases need pastes containing zinc oxide, boric acid or starch. The chronic cases require a more stimulating application, a preparation containing resorcin, sulphur, pine tar, oil cade, coal tar or salicylic acid. Usually a combination of two or more of these ingredients acts better. For infantile eczema, coal-tar ointment, as suggested by Brocq of Paris and modified by C. J. White of Boston, is especially beneficial. This contains 5 per cent coal-tar, 5 per cent zinc oxide, and 5 per cent starch in enough petrolatum to make 100 per cent.

Acne

This comprises 10 per cent of skin lesions. The patients affected are between the ages of 13 30. It is an inflammatory disease of the sebaceous glands, due to increased activity during adolescence. Some think it is due to a micro-organism, but the growth of bacteria is probably a secondary manifestation. Acne is usually found on the face, and sometimes on the chest and back.

There are several varieties: acne vulgaris, acne indurata and acne pustulata. The diagnosis is easy. It is essentially a chronic skin disease and is resistant to treatment.

Treatment.—This should be started early and should be persistent, since improperly treated or neglected cases have permanent scars. External, internal and hygienic measures are necessary. Diet should be regulated. No fried or greasy foods, no chocolates or pastries should be allowed. The patient should drink plenty of water and take outdoor exercise. The bowels should be kept regular by eating proper food and, if necessary, by vegetable laxatives. A tonic, such as cod liver oil or iron and manganese, should be prescribed.

Local treatment is absolutely necessary. Open the pustules, and express the comedones. Apply a stimulating, antiseptic lotion containing a combination of at least 2 of the following: sulphur, resorcin, salicylic acid, zinc sulphate or sulphurated potassa.

Acne is very much benefited by the application of X-ray in fractional doses, but can be cured without this modality.

Scabies

There are many animal and vegetable parasites which attack the skin. The 2 most frequent are scabies and pediculi. Scabies comprises 5 per cent of dermatoses. The U. S. Public Health Service estimates that there are 200,000 cases of scabies in the United States daily.

Scabies is due to a small animal parasite scarcely visible to the naked eye. It invades the skin for the purpose of obtaining food. The female, which burrows into the skin to lay her eggs, is the offender. It has been estimated that she lays 2 eggs a day, going deeper each day to do so, until she had laid 10 eggs, then she dies. In a few days these eggs hatch, and the young acarus comes to the surface to start this process all over again. Unless treated properly, this vicious circle would continue indefinitely. That is the reason it is called the "seven-year itch"—it will last 7 years, or as long as the host lives. It is very contagious and is transmitted by clothing and from person to person.

The outstanding lesions are papular, vesicular and at times postular due to scratching. The eruption does not appear on the scalp or face. The itching is always worse at night.

Treatment.—Sulphur in some form is the classical remedy. A word of caution is here necessary. Too long use of sulphur will produce a sulphur dermatitis. The U. S. P. ointment of sulphur has been used for years. It contains precipitated sulphur (15 per cent), but that is too strong. For adults the amount should be not over 10 per cent and for children 5 per cent.

The United States Navy has adopted a more elegant preparation than the messy sulphur ointment. It is a prescription of precipitated sulphur (10 per cent) in shaving cream. This is lathered on with a new shaving brush for 3 nights, and a bath is taken each night before the application. It is necessary to change the clothing next to the skin night and morning.

DERMATITIS VENENATA

This comprises 5 per cent of the skin diseases. It is an acute local inflammation and irritation due to contact with poisonous plants or chemicals. The chemicals that produce this condition are tar, mercurials, sulphur, strong acids, alkalies, lysol and bichloride of mercury. The occupations of bakers, printers, bricklayers, nurses, physicians and dentists produce the greatest number of cases.

It has been estimated that 75 plants will produce dermatitis venenata in some form or other. To name the cause of dermatitis venenata, we shall have to fall back on the terms "susceptibility" and "sensitivity." The most frequent plants belonging to this group in this locality are poison ivy, primrose and field daisy.

Every physician sees many cases of dermatitis venenata due to poison ivy. This plant is a beautiful climbing vine with 3 leaves described by the poet:

"If it's a leaf of three
Turn and flee;
If it's a leaf of five
Stay and thrive."

Poison ivy dermatitis begins with an inflammatory erythema. The swelling becomes more intense, with the formation of vesicles and blebs. There is intense burning and itching. The serum from the vesicles contains the irritating substance toxicodendrol. If this touches the healthy skin it will cause the eruption to spread. The exposed portions of the body, as the face and hands, are usually affected.

Treatment.—Over 200 remedies have been published for the treatment of poison ivy dermatitis. The most useful, soothing sedatives are lotions containing boric acid, acetate of lead and grindelia robusta.

The parts should be washed vigorously to break down the vesicles, and the lotion applied frequently. In recent years, a poison ivy antigen has been manufactured. This, injected subcutaneously, will hasten the cure and act as immunizer, if given before exposure. The immunity lasts about 3 weeks.

URTICARIA

This comprises about 5 per cent of the skin cases. It is also called "Hives" and "Nettle Rash"; the latter name is derived from nettle weed, botanically known as Urtica. Urticaria produces an inflammatory skin condition with red elevations or wheals of various sizes and shapes and is always attended by itching and sometimes by a stinging sensation. Some dermatologists think it is only a symptom of some internal dysfunctioning, such as gastric disturbance from acid fruits, sea food, tomatoes, and the ingestion of certain drugs. The theory is that the toxins formed by these substances get into the blood stream and are carried to the skin and there produce this congestion when irritated by scratching or pressure. The external cause is the contact with certain plants, excessive heat or cold, shock or fright, also the wearing of wool, rayon or silk next to the skin.

There is annoying and persistent itching. Redness is seen in areas where clothing is tight, and by stroking the skin with a blunt instrument a redness and elevation can be produced. A slight evanescence is not diagnostic; the redness and elevation must be pronounced and remain for some time.

Treatment.—Diet is of paramount importance. Find the offending food and eliminate it. No raw fruits, tomatoes, strawberries, or fried or greasy foods are allowed if they seem to play a rôle. A laxative is always indicated, a saline one preferably. Corn starch baths, not too hot, followed by dusting with powdered corn starch or boric acid are of value. Attention must be given to the clothing, to see that it does not irritate.

SEBORRHEA

This comprises 4 per cent of the cases. The word means "flow of sebum." It is due to the excessive action of the sebaceous glands in conjunction with the sweat glands, producing a fatty secretion and, at times, scales. In these secretions and scales are found the bottle bacillus which some authorities think is the cause of seborrhea. The condition is usually found on the scalp, but it is never confined to that location and always extends to the face. There are 2 distinct varieties, seborrhea oleosa and seborrhea sicca. Seborrhea oleosa is more common.

In the moist variety, there are oily, yellow scales on the scalp, extending below the hairline. There is considerable itching which causes the patient to scratch, often producing a secondary eczema. In the dry variety, there is a lack of oily secretion and an accumulation of scales (dandruff). The more it is scratched the more persistent it becomes.

Treatment.—The general health should receive attention. Prescribe tonics, iron, arsenic, or calcium sulphide. The latter is especially beneficial in this condition. External medication is necessary. A hot olive oil shampoo once a week, and the application of an antiseptic ointment each night for one week are efficacious. This ointment should be composed of salicylic acid, sulphur and a petroleum base.

PSORIASIS

This comprises 4 per cent of dermatoses. It is a chronic inflammatory skin condition with sharply-defined, scaly, thickened patches of different sizes and shapes. When the scales are removed they look like snowflakes. Underneath these scales are found red, turgescent areas. It has a pedilection for the elbows and the scalp. As a rule, it is not found on the exposed portion of the body.

A French dermatologist says it affects only those who are "brutally well." The condition is worse in winter than in summer. Those living in the tropics and the true African race do not have this disease. Natural sunlight protects against its development and cures those affected, if they are sufficiently exposed.

Its etiology is unknown. Some think it is due to a fungus; some, to a parasite; some, to a distinct micrococcus; and the late L. Duncan Buckley, to an excessive intake of nitrogenous food. Dr. Shomburg of the University of Pennsylvania found all psoriatics to have an excess of uric acid.

The disease can usually be distinguished from eczema by its dryness and scaliness, and, as a rule, by the absence of itching. It sometimes resembles the papulosquamous syphilide. The history of syphilis, scanty scaling and deep-seated infiltration characterize the latter. Tinea circinata has more inflammatory lesions and the presence of fungus in the scales. Seborrhea of the scalp and psoriasis are at times hard to differentiate. In seborrhea the scales are finer and more generally diffuse. The itching is more pronounced. Psoriasis occurs in patches when on the scalp.

Treatment—Arsenic has a reputation in this stubborn condition, and is given in the form of Fowler's solution or Asiatic pills. External treatment is always necessary. Chrysarobin has a reputation of long standing. If it is fresh and of sufficient strength it will oxydize the lesions, causing them to disappear and leaving the skin lighter, which in time will become normal in color. Chrysarobin, however, should not be used on the face or scalp, since it is very irritating to the eyes. U. S. P. chrysarobin ointment is 4 per cent and is the right strength to use. For the scalp a good ointment is one composed of 2 per cent salicylic acid with 5 per cent ammoniated mercury. Before using an ointment the spots should be soaked with olive oil to soften the scales and then thoroughly scrubbed with soap, hot water and a flesh brush. Exposure to sunlight, especially in summer, is beneficial.

IMPETIGO CONTAGIOSA

This comprises about 3 per cent of the skin cases. The name is derived from the Latin "Impetere," to attack. It is an acute, inflammatory disease and, as its name indicates, is very contagious. It is estimated that there are 700,000 cases in the United States daily.

It begins with small, red spots that rapidly fill with serum, becoming vesicles; then these become pustular, forming thick, white crusts of a honeycomb appearance. Usually it is found on the face, chin, and neck of children or young persons. When a child infected comes in contact with other children, the spread is very rapid. School children should not return to school until all of the eruption has entirely disappeared.

Impetigo contagiosa is due to a staphylococcus and a streptococcus. Unna thinks it is due to a specific coccus. Its action would indicate that his view is correct.

There are two varieties, that of "Tilberry Fox" and that of "Bockhart's." The latter variety is more persistent and more difficult to cure.

Treatment.—Soak the thick, white scales with olive oil or a simple ointment; then wash with soap and water, removing all the scales. If the scales are not removed, applications can not reach the infection and will be of no benefit. The antiseptic ointment that has been used the most is ammoniated mercury (2–5 per cent). A stronger combination is too irritating. For children, 1 to 2 per cent is sufficient. But better than ammoniated mercury is an ointment containing 25 per cent calomel in benzoinated lard.

RINGWORM

This comprises about 3 per cent of the skin cases. It is also known as tinea, trichophytosis and dermatomycosis. It is a fungus infection affecting the scalp, body, nails and hair. During the past few years its incidence has been increasing. The New York Skin and Cancer Hospital gives the following table:

	Per cent
1925	3
1926	4
1928	7
1929	10

If the true amount of ringworm were known, it would be greater than these figures represent. The United States Public Health Service states that 50 per cent of adults have ringworm. Some colleges report 90 per cent of their men as having this disease. The increase is ascribed to the greater number who go to gymnasiums, swimming pools and golf showers.

Ringworm thrives on a warm, moist and dark surface. There are over 10 varieties. During the last few years, the feet have been invaded more than any other portion of the body. A company selling a popular, advertised remedy has coined the word "Athlete's Foot."

The symptoms vary as to location. In the scalp there are bald spots with broken hairs and a moth-eaten appearance. In the bearded region, there are papular lesions soon turning to pustules following the hair follicles. On the body, erythematous lesions are seen with a center of normal skin. In the groin, there are very red, slightly elevated, confluent papules with a distinct border; this lesion is sometimes called by the old name "eczema marginatum." On the feet, there are often vesicles on the plantar surfaces. Between the toes there is a moist macerated surface with scales and, at times, bleeding spots.

Treatment.—Experience teaches that ointments are not as beneficial as antiseptic solutions. If on the scalp, the hair should be cut short, especially around the affected area, diseased hairs epillated, and a 3 per cent tincture of iodine applied once a day.

If on the body, the application of 3 per cent tincture of iodine, or 1:1000 bichloride of mercury, is efficacious.

If on the feet, soak in hot water to which has been added 2 tablespoonfuls of washing soda to the basin. Wipe, dry, and apply each night for 3 nights 5 per cent salicylic acid to 95 per cent alcohol. Use this solution for 3 nights only. Each morning dust on the feet and in the stockings powdered boric acid. Hosiery must be changed daily. Old slippers or shoes should be discarded or washed inside with bathing alcohol and allowed to dry in the sun. An antiseptic powder containing powdered camphor, starch and zinc oxide can then be used daily, and, as a rule, the ringworm will soon be cured.

Appended are copies of useful prescriptions for the 9 common skin diseases discussed.

ECZEMA

(*Infantile and Chronic*)

Ungt Picis Nigrae (Coal Tar)	
Pulv Zinci Oxidi a a	2.00
Ungt Petrolati q s	30.00

Misce Signa: Apply twice a day removing last application with olive oil.

ACNE VULGARIS

Sulphuris Precipitatis	4.00
Pulvis Camphorae	0.18
Pulvis Tragacanthae	0.5
Aquae q s	30.00

Misce Signa: Apply night and morning.

SCABIES

Sulphuris Precipitatis	4.00
Shaving Cream (Any make) q s	30.00

Misce Signa: Take a hot bath at night then apply with a new shaving brush allowing the lather to remain on until the next night.
Do this for 3 nights ONLY.
Change underclothing daily; also bed linen.

DERMATITIS VENENATA

(*Poison Ivy*)

Fl. Extract Grindeliae Solubilis	8.00
Aquae q s	60.00

Misce Signa: Apply frequently.

URTICARIA

Sodii Salicylatis	4.00
Fl. Extract Cascarae Aromatici	12.00
Mist Rhei et Sodii q s	100.00

Misce Signa: Teaspoonful in water after meals.

SEBORRHEA

(*Scalp-Dandruff*)

Acidi Salicylici	2.00
Sulphuris Precipitatis	4.00
Ungt Petrolati Albi q s	30.00

Misce Signa: Apply to scalp at night massaging in well with the ends of the fingers.

PSORIASIS

Acidi Salicylici	2.00
Hydrargyri Chloridi Mitis	8.00
Ungt Aquae Rosae q s	30.00

Misce Signa: Apply every night to lesions after first removing scales with a flesh brush and olive oil.

IMPETIGO CONTAGIOSA

Hydrargyri Chloridi Mitis	8.00
Adeps Benzoati q s	30.00

Misce Signa: Wash parts thoroughly with soap and hot water; then apply the ointment several times a day.

RINGWORM

(*Feet*)

Acidi Salicylici	2.00
Spts Vini Rect 95 per cent	30.00

Misce Signa: Apply at night for 3 nights only. Dust in stockings and on feet, powdered boric acid. Change stockings daily.

COMPLETE ANURIA OF SIX DAYS' DURATION

REPORT OF A CASE WITH RECOVERY*

HUGO EINSTEIN, M.D.

Washington

F. R., 45 years of age, a carpenter by trade, was sent to a local hospital by Dr. N., December 30, 1930. On this day I was consulted and saw the patient in the hospital. The patient was complaining of irregular attacks of renal colic on the left side with pain radiating down to the left groin and penis. These attacks had occurred intermittently for 7 to 8 years. There had been gross hematuria about 7 years before. Frequent urination and dysuria were also mentioned in his history. In 1925, the patient had been admitted to a hospital, where several small kidney stones were passed. For the last year he had complained of some dull ache in his right side but no colicy pains. Just a few days before the patient's last admission to the hospital he had had very severe pains in the left side.

Upon examination a very well nourished man was found with a blood pressure of 134/85 and with normal heart and lungs. The abdomen was soft but there was some tenderness over the left kidney region. The radiographic examination showed multiple large stones in the left kidney. The urine was light amber, somewhat cloudy, alkaline in reaction, containing a faint trace of albumen, a few red blood cells, many leukocytes and many small clumps of pus. Due to the fact that the right kidney did not show any pathology at this time and the left kidney showed many large stones, nephrectomy was advised at the earliest possible date even without having determined the blood chemistry or having done a kidney function test of the unaffected kidney.

On January 2, 1931, the patient was operated upon and the left kidney, which contained 3 large stones, was removed. After removing several small stones from the kidney pelvis the pedicle was tied and the wound was closed. Macroscopically, the kidney had been almost completely destroyed by these big stones. The cortex was about $\frac{1}{4}$ cm. thick. Microscopic sections showed the interstitial connective tissue to be the seat of chronic inflammation and the arterioles in the state of early sclerosis. The tubules showed considerable cloudy swelling, variation in size and considerable hemorrhage in some, with some hemorrhage into the parenchyma. Some of the tubules contained small lamellated deposits.

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* Read at the meeting of the George M. Kober Medical Society, November 20, 1933.

The patient made an uneventful recovery and left the hospital 3 weeks after the operation.

The last week of January passed, and the months of February, March and April went by without any discomfort to the patient. As a matter of fact, he was feeling very well all of this time. On Thursday, May 7, 1931, $3\frac{1}{2}$ months after his operation, the patient walked into my office and told me that he had not been able to urinate since the preceding night. He did not have any pain and felt very well. The patient was catheterized in my office without securing even a drop of urine. He was ordered back the next day for a cystoscopic examination in the hope that some urine would show up in the mean time. The following day he walked into the office again and told me that he had not been able to pass any urine. Upon cystoscopy the bladder was found to be completely dry. A bougie was inserted into his right ureter, but an obstruction at the ureteral pelvic junction was encountered. Of course, I felt sure that there was a little stone lodged in the right ureter which was the cause of the patient's anuria. Dilatation of the ureter to dislodge a stone was unsuccessful; the patient was told to go home and return the following day for another attempt. He still had been feeling very well, and his blood pressure was 134/85. The next ureteral manipulation with small and large bougies was just as unsuccessful as the previous. I became concerned about the patient's condition in spite of his felling well, in spite of his normal blood pressure and in spite of any absence of discomfort. He was advised to go to the hospital but refused to do so until May 11, when an x-ray film was taken and a blood chemistry examination made. This was the fifth day of complete anuria. By now the patient had started to vomit, and the blood pressure had risen to 145/90. He was convinced now that something had to be done and he was willing to submit to any kind of operation. The radiographic examination did not show any calculi in the right kidney region; the kidney shadow was somewhat larger than normal. There were 150 milligrams of non-protein nitrogen per 100 cc. of blood and the urea nitrogen was 89 milligrams, with 6 milligrams of creatinin.

A surgeon was called in consultation, and naturally an immediate operation was decided upon. Dr. P. undertook a pyelotomy removing several small stones from the pelvis and extracting one impacted wedge-shaped stone which had caused complete obstruction of the ureter. Drainage was instituted by inserting a catheter in the kidney pelvis. The patient made a most uneventful recovery. He was able to urinate the same evening, and the blood chemistry which was taken 2 days after the operation showed a very marked decrease in non-protein nitrogen to 48 milligrams per 100 cc. of blood, of urea nitrogen to 36 milligrams and of creatinin to 2.03 milligrams. The patient has remained well.

COMMENT

Keyes explains calculous anuria as being a stoppage of urinary flow caused by the plugging of one or both ureters with calculi. It is part suppression and part retention. He divides the symptoms of calculous anuria into 3 stages: (1) the premonitory stage, (2) the tolerant stage, and (3) the uremic stage.

In the premonitory stage there is usually more or less pain, perhaps an actual colic, referred to the kidney. It persists from a few hours to a few days. However, there may be no premonitory pain whatever.

The tolerant stage is characterized by but one symptom, anuria. The anuria is rarely absolute. A few drams of urine tinged with blood are passed every day, or perhaps the anuria runs a remittent course. At one time or another 2 or 3 liters of urine may gush forth, a misleading promise of relief, for the flow is but temporary. This state of affairs lasts from 3 days to a week. Not a drop of urine may be passed during several days and yet the patient may, apparently, remain in the best of health. No more striking contrast could well be imagined than that presented by calculous anuria: on the one hand, the grave renal lesion, the absolute retention, the swift, fulminating character of the uremic period soon to follow, and, on the other hand, this entire absence of symptoms, local or general. The patient goes about well content. He eats, sleeps, and works much as usual. Whatever pain he has had in the loin is past, and his present discomforts are insignificant. Yet all the while, Keyes says, there is brewing within him a crisis swift and terrible.

Spontaneous recovery may occur. The obstruction is relieved; the urine gushes out 3 to 4 liters a day, and all is well. Morris thinks this may occur in 20 per cent and Legueu mentions that this may take place in 28 per cent of the cases. Yet it is obvious that one should not await spontaneous cure.

When spontaneous recovery does not occur the patient passes into the third stage of the disease at the end of a week or so, the uremic stage. This stage is usually ushered in by hiccough or vomiting. It may continue for a day or two without additional symptoms. The pulse is tense, the temperature usually subnormal.

Constipation becomes absolute and the intestines are distended with gas. The vomiting grows more severe, the intellect becomes dulled and stuporous. The patient's mind may wander a little, and sometimes become fully unconscious. Within 2 or 3 days of the first hiccough or vomiting he usually dies.

Such is the usual clinical picture of the gravest and most fatal of the many serious complications of urinary lithiasis. The patient whose case is reported fortunately had a more fortunate outcome.

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The Fundamentals of Internal Medicine*

DISEASES OF THE HEART

(Continued from February, 1934)

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Etiologic Types of Heart Disease

PULMONARY HEART DISEASE

Etiology.—This form of heart disease is rather rare. Because the usual cause is hypertrophic emphysema accompanying some chronic bronchial or pulmonary condition it is often referred to as "the emphysema heart." Rarely a primary involvement of the pulmonary arterioles produces pulmonary arterial hypertension comparable to systolic hypertension of the systemic circulation. Elderly persons are more apt to have "the emphysema heart" than young individuals.

Physiological and Pathological Considerations.—Because the pulmonary arterioles and capillaries are partially obliterated by the dilatation and fusion of the alveoli and the loss of elasticity of their walls more work is required of the right ventricle to pump sufficient blood through the constricted pulmonary stream bed for oxygenation. It hypertrophies and may eventually fail from exhaustion. The pulmonary artery and the right auricle become dilated and tricuspid regurgitation ensues, when congestion of the viscera results. Cyanosis may appear relatively early in right ventricular failure because of an insufficient amount of blood being oxygenated. In those rare cases of primary pulmonary arterial hypertension there are thickening of the walls of the pulmonary arterioles and narrowing of their lumen. Syphilis has been said to be the cause in some cases. Right heart failure with cyanosis has been called Ayerza's syndrome, but probably should not properly be given this designation. Ayerza called these patients *cardiacos negros* (black cardiacs), and called attention to the polycythemia which is present as a compensatory factor to provide more oxygen carriers because of the sluggish pulmonary circulation.

Symptoms and Signs.—These are usually those of the chronic bronchitis and emphysema associated with cyanosis, increased dyspnea, engorgement of the jugular veins with a positive venous pulse, enlargement of the liver, edema of the legs and frequently ascites. The fingers are often clubbed due to the emphysema. The hemoglobin and erythrocyte count are increased. The enlargement of the right ventricle may be difficult to ascertain because it lies anterior to the rest of the heart, and the emphysema also makes percussion of the cardiac outline difficult. There may be a systolic murmur in the region of the pulmonary valve, and the second pulmonic sound is usually accentuated. Fluoroscopy reveals the enlargement of the right ventricle and dilatation of the pulmonary artery (second left convex curve). The electrocardiogram may show right axis deviation (right ventricular preponderance).

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* This is the fifth instalment of a treatise on Diseases of the Heart prepared to orient the older graduates of medicine in the changing concepts of diseases of the heart and to review the subject for younger graduates. Other instalments will follow until completion. If there is a demand for similar treatises on other systems of the body they will be forthcoming.

Course and Prognosis.—There is usually a chronic course ending in death from a respiratory infection or congestive heart failure.

OTHER ETIOLOGICAL FACTORS AND CONSIDERATIONS

Infectious Diseases.—The important infections producing cardiac disease have been dealt with, namely, rheumatic infection, syphilis and those infections causing bacterial endocarditis and pericarditis. Of the less important infectious diseases involving the heart diphtheria is perhaps the most notable. Serious myocardial damage may occur from the toxin, which sometimes produces even necrosis of the heart muscle. If the patient survives, however, there is practically never any permanent cardiac injury. Symptoms directly referable to cardiac damage are few and are usually limited to some dyspnea, palpitation or precordial oppression. Cyanosis, cardiac dilatation, tachycardia, gallop rhythm and various degrees and forms of heart block may be observed.

Scarlet fever is supposed by many men to be occasionally the cause of chronic valvular disease, mainly mitral valve involvement. Usually this is in cases in which arthritis accompanies or follows the scarlet fever.

Other infections are of such minor importance that they will not be considered. In most cases of systemic infection the heart rarely fails primarily or is permanently damaged. Tachycardia and falling blood pressure are not signs of myocardial failure but of vasomotor paralysis. In pneumonia the heart is often accused of being weak but real heart failure is not common in spite of the strain on the right ventricle and the effect of the toxin on the myocardium.

The Endocrine Diseases.—Except for hyperthyroidism diseases of the ductless glands are unimportant as causes of heart disease. There is a condition known as "the myxedema heart." In myxedema, a rare disease nowadays, the heart may become dilated with evidence of loss of cardiac reserve. Angina pectoris and coronary arteriosclerosis may develop as complications. The electrocardiogram shows low voltage and inversion of the T waves. Thyroid extract may restore the heart almost to normal.

Neoplasms.—Tumors of the heart and pericardium are rare and even when present cause usually very little cardiac disturbance. They may be primary or secondary and are rarely diagnosed in life. Sarcoma, myxoma, fibroma and rhabdomyoma are the usual primary tumors. Metastatic carcinoma and sarcoma occur usually only with very extensive involvement.

Drug Poisoning.—Strangely, it is usually the drugs used in the treatment of heart disease which are the only common causes of poisoning of the heart. Digitalis given in excessive amount may cause any kind of arrhythmia, the most common being pulsus bigeminus and auriculoventricular heart block. An already damaged heart may be made worse by careless use of the important drug.

Quinidine sulphate, a much less important drug, has harmful potentialities and must be employed carefully, if at all.

Alcohol, tobacco, tea and coffee probably do not cause serious damage to the normal heart, but may cause neurocirculatory asthenia and probably aggravate the weakness of a diseased heart. The "beer heart" is probably a myth.

Obesity.—There is probably no specific cardiac damage due to obesity, although neurocirculatory asthenia may develop because of lack of physical training. Hypertension probably occurs in obese people more often than in others, and this, of course, may lead to cardiac failure. Fatty degeneration of the heart, a purely pathologic entity, does not occur more frequently in the obese than in the non-obese, but is the result of toxemia and anemia and rarely causes primary heart failure.

Blood Diseases.—Pernicious anemia when uncontrolled often produces moderate cardiac hypertrophy and dilatation with fatty degeneration, but congestive failure is rare, although angina pectoris may occur due to the myocardial ischemia. Severe anemia from any cause may produce serious cardiac dilatation.

Pregnancy.—Pregnancy does not damage a normal heart, and usually the diseased heart can withstand the strain of pregnancy and labor unless already near or in congestive failure. There are three cardiac conditions which are most serious in pregnancy, for both mother and fetus, namely, auricular fibrillation, severe aortic regurgitation, and congestive failure. Every pregnant woman with heart disease should be carefully observed throughout pregnancy, and if congestive failure occurs the pregnancy should be terminated, or, if the fetus is not quite to the viable stage, an attempt may be made to control the failure by the usual means until that stage is reached, when pregnancy should be terminated by Cesarian section or the induction of labor.

Trauma.—Injuries to the heart are rarely of permanent significance if the patient recovers from the immediate effects.

Thoracospinal Deformities.—Marked kyphosis and scoliosis associated with thoracic deformity may cause such displacement and distortion of the heart and great vessels as to produce hypertrophy and dilatation of the heart from strain. Heart failure resulting from such a condition, however, is rare.

High Altitude.—The diminished oxygen tension of the atmosphere at high altitudes causes mountain sickness in the tourist, while in the permanent dweller it leads to polycythemia, emphysema with a barrel-shaped chest, and sometimes cyanosis and clubbed fingers. Hypertrophy of the right ventricle may result, but heart failure due to the effects of altitude alone is rare.

Work and Exercise.—Hypertrophy of the heart, usually moderate in degree, may result from frequently repeated strenuous physical activity, but heart failure probably never ensues unless there is some other etiological agent at work.

Anesthesia and Surgical Operations.—Unless the patient has marked congestive failure, coronary thrombosis, angina pectoris, complete heart block or syphilitic aortic regurgitation he usually stands anesthesia and an operation well. Ether and ethylene are the anesthetics of choice but a good anesthetist is more important than the kind of anesthetic. Collapse or death during anesthesia is usually the result of vasomotor paralysis and not heart failure.

Excessive Eating and Drinking.—Gormandizing probably has no direct effect upon the normal heart but may precipitate failure in a diseased one.

Arteriovenous Fistula.—A large communication between a large artery and vein, usually the result of a penetrating wound, throws a heavy load on the heart, leads to cardiac hypertrophy and dilatation and sometimes results in congestive heart failure. There is the history of the trauma, usually to an extremity, a strong thrill and a loud bruit in the region of the fistula, trophic changes in the extremity, tachycardia which immediately changes to bradycardia when the fistula is closed by compression (Branham's bradycardia reaction), and an increased pulse pressure. The blood volume, the circulatory rate and the minute volume output of the heart are increased. Operative removal of the fistula usually restores cardiac function to normal or near normal.

Cardiac Neurosis and Neurocirculatory Asthenia

CARDIAC NEUROSIS

The term cardiac neurosis should be limited to cases of anxiety, hypochondriasis or hysteria concerning the heart. Individuals with a naturally apprehensive mental makeup may develop a cardiac neurosis if they hear a great deal about heart disease or have friends or relatives who are the victims of it; others may develop it because of subjective symptoms which are referable to the heart, whether they be of functional or organic origin. The usual symptoms and signs of heart disease are lacking unless the patient has acquired a cardiac neurosis on the basis of actual heart disease.

NEUROCIRCULATORY ASTHENIA

Etiology.—This condition has been termed the irritable heart of soldiers, disordered action of the heart and effort syndrome. It may be part of so-called neurasthenia. It is well described by the statement that it is neurasthenia of the circulatory system. There seems to be a constitutional weakness, frequently inherited, in most cases in this direction, but the manifestations may not develop until some more than usual strain brings them out, such as strenuous military training or illness. It is most common in young adults, and females are affected more often than males. Alcohol, tobacco, tea and coffee may aggravate the condition but do not cause it.

Physiological and Pathological Considerations.—There are no anatomical lesions.

Symptoms and Signs.—The symptoms are mainly subjective, the most important being precordial pain and palpitation brought on more by excitement and fatigue than by exertion. The palpitation is mainly consciousness of forceful and rapid beating of the heart. The pain is a dull ache with occasional sharp, shooting exacerbations and lasts for hours; it does not radiate from the precordium. There is complaint of difficulty in breathing, but it is more subjective than objective, although occasionally there is rapid respiration. Frequent sighing is common. Faintness, dizziness, sweating, tremor and nervousness may be complained of.

Unless there is a complicating organic disease of the heart, this organ appears to be normal on examination. The expression of the patient is anxious and there may be visible sweating and frequent flushing. The vital capacity is reduced. The electrocardiogram and X-ray film of the chest are not remarkable.

Course and Prognosis.—Uncomplicated, the condition does not reduce the span of life, but according to the severity of the case and the strain of the patient's activities there is more or less suffering and limitation of endeavor.

(To be continued)

ABSTRACT OF PAPER READ BEFORE THE SOCIETY

"Report of a Case of Chronic Cyanosis Associated With Argyria,"* by **Everett M. Ellison, M.D., Leslie T. Gager, M.D., and Oscar B. Hunter, M.D.**

W. E. M., a white man, aged 62 years, a contractor, came under observation in May, 1931. The chief complaints were weakness and dyspnea. In addition, there was a remarkable duskiness of hue of skin and mucous membranes. The patient's father had died at 50 years of "asthma" and up to the age of 30, the patient himself had been thin and subject to the most severe asthmatic attacks. Following marriage, he gained weight and his asthma lessened, but for the rest of his life he was never free from cough and every winter brought attacks of bronchitis. In spite of easy exhaustion he remained active in business. His habits were abstemious. In 1922, the patient placed himself in the hands of a physician in Brooklyn, N. Y., and it was in the following year that his family noticed the appearance of a bluish discoloration. It began in the nailbeds, extended to the hands, face and neck and eventually involved the whole body. So striking was the change from a rosy complexion to the cyanotic hue that attendants at restaurants and theaters on several occasions questioned his color. A point of interest was that on exertion the blue color would become bluish black. In 1931, inquiries of the former physician concerning his treatment brought no information. In 1930 the patient was treated at Washington Sanitarium, and a diagnosis of hemochromatosis was considered. A blood sugar of 317 mg. per 100 cc. of blood was found at that time, coincident with a carbuncle; it was noted that during the period of infection the cyanosis deepened and became less after surgical drainage. Examinations in May, 1931, showed a well developed and sparely nourished man lying in bed in slight orthopnea. There was a blue black color of skin, lips, mucous membranes and also of the fundi. The color remained unchanged on pressure. The lungs were emphysematous, the heart was enlarged to the left, the peripheral arteries were moderately thickened, the retinal arteries were somewhat thinned. The blood pressure was 210/120, the pulse rate 90, the rhythm regular. The liver and spleen were not enlarged. There was no edema. The urine constantly showed albumin and pus cells, due to chronic urinary infection resulting from prostatic hypertrophy. The white cells were 15,000, with a slight secondary anemia. The Wassermann and Kahn tests of the blood were negative, a pneumococcus predominated in the sputum. A chest plate showed peribronchial thickening, increased hilal shadows, and an old scar at the right apex. The heart was enlarged transversely, the aorta was not wide and the pulmonary arteries

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* Presented November 22, 1933.

(Continued on page 88)

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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THE TREATMENT OF DIABETES MELLITUS

Diabetes mellitus is not only one of the most common diseases and one of the most susceptible diseases to treatment, but it is perhaps one of the least efficiently handled diseases. It is estimated that there are more than a million individuals with diabetes in the United States. The death rate from diabetes is increasing, largely because more people with it are living longer and reach the age when serious complications are more frequent. The general practitioner and even the specialist in internal medicine have not in general kept pace with the proper methods of treatment of this important disease. There are several pertinent facts which might well be emphasized. First, it should be every physician's rule that *glycosuria means diabetes until proved otherwise.* Many patients with diabetes have sugar in the urine at one time and not at another. Even when a second or third urinalysis is negative for sugar, the amount of glucose in the blood when the patient is fasting (i.e., before breakfast) should be determined. A normal blood sugar does not, however, rule out diabetes. In any borderline case a glucose tolerance test should be employed, since even a mild case may later become a serious one because of lack of treatment.

The treatment of diabetes is dietetic, insulin being used only when diet does not control the condition. Only a very mild case should be treated by telling the patient to cut down on his starches and sugars. Specific written instructions are always better than orally given ones. All but the mildest cases should be treated by a carefully planned dietetic regimen in which the amounts of various articles of food are measured out, either roughly by tablespoonful quantities or by means of diabetic scales, depending upon the severity of the case and the intelligence of the patient. Physicians should have information available of the amounts of carbohydrates, proteins and fats in various food materials and should know the weights or measurements of the usual average portions of food. The diet should contain approximately the same amount of carbohydrates, proteins and fats every day, and about a third of the carbohydrates should be used for each meal. Those patients who prefer not to use insulin may be given a low carbohydrate, high fat diet, if the disease is not severe. If the patient is obliged to use insulin the amount of carbohydrate allowed is reduced only moderately, provided the amount of insulin then required is not too great (i.e., over 50 units daily).

The objects of treatment are to keep the patient properly nourished, the urine sugar-free and the blood sugar normal or nearly normal. *Insulin must never be used unless the patient is taking a carefully measured diet.* The amount of insulin necessary is that which keeps the urine sugar-free and the blood sugar within desired limits when the diet settled upon is being used. Depending upon the amount of insulin to be used the number of doses to be given daily is determined. The largest dose is given before breakfast, the next largest before supper and the smallest before the mid-day meal. In some cases a fourth dose is required later at night. Insulin is given one half hour before meals hypodermically. *There is no preparation which acts like insulin that can be taken by mouth.* Methods of establishing insulin dosage are readily available in good text-books of medicine and in the diabetic manuals.

All intelligent patients should be taught a great deal about their disease, inasmuch as they must go through life with it and so much depends upon their coöperation. They should know how to plan diets, how to give themselves insulin, how to treat insulin reactions, how to examine their urine (which should be done daily) and what to do when they become ill. Instruction in the care of the feet is very important for older patients. When an intelligent, well informed physician works conscientiously with an intelligent patient there is no reason why the diabetic patient should not live as long as other people.

TRANSACTIONS OF THE SOCIETY

Stated Meeting, January 3, 1934

The following were duly elected to membership:

Active Members

Wyrth Post Baker, 1861 Wyoming Avenue, N. W.
Joseph Holmes Branson, 3531 Sixteenth Street, N. W.
Marvin A. Custis, 626 East Capitol Street
Henry Gilbert Hadley, 1252 Sixth Street, S. W.
Stafford Wendell Hawken, 1726 Eye Street, N. W.
Alma Fife Heath, 1837 Monroe Street, N. E.
Sollie Katzman, Farragut Medical Building
William Ellis Long, 2116 Fourth Street, N. E.
John Bayne Marbury, 1015 Sixteenth Street, N. W.
Raymond Wilkins Murray, 209 Sixth Street, N. E.
Antoine Schneider, 1009 Michigan Avenue, N. E.
Allan Elliott Walker, Jr., 1835 Eye Street, N. W.
Willard Beecher Walters, Cumberland Apartment
Robert Lomax Wells, 1726 Eye Street, N. W.
William Norris Wooldridge, 3406 N Street, N. W.

Associate Member

Hugh Osgood House, 1835 Eye Street, N. W.

Applicants for membership to be voted on in May, 1934:

For Active Membership

Edward Burke Kelly, Georgetown University—1928
Louis P. Levitt, University of Colorado—1927
Robert E. Maher, Georgetown University—1932
William Ross Morris, University of Virginia—1921
Alberto Garcia de Quevedo, University of Maryland—1915
Ralph Rhett Rathbone, University of Michigan—1929
Evelyn A. Rider, University of Pennsylvania—1919
Grace D. Linklater Stone, University of Oregon—1925
Earl Richard Templeton, Syracuse College of Medicine—1920
Walter Duval Webb, Columbia University—1895

For Associate Membership

Viola Russell Anderson, University of Michigan—1917
Charles Edward Riggs, State University of Iowa—1892
George Louis Weller, Jr., Johns Hopkins University—1932

A Nominating Committee was elected by the Society to select nominees for each elective office, also members of the Executive Committee and Program Committee. The personnel of the committee is as follows:

James A. Cahill, Jr., *Chairman*
Henry R. Schreiber
Edwin A. Merritt
William J. Stanton
Wallace M. Yater

The following amendments to the Constitution were adopted:

1. Article VI, Section 3: (Pertaining to duties of the President.) Insert after the phrase, "deliver an annual address at some meeting," the words, "during his term after January 1," striking out the phrase "in May of each year."

2. Article IV, Section 1: Change to read, "This Society shall hold regular meetings every Wednesday during the months from October to May, inclusive, excepting the last two Wednesdays in December and Wednesdays falling upon the day before a National holiday and the Wednesdays falling upon a National holiday; at eight o'clock P.M., unless the Society by a two-thirds vote shall cancel a meeting."

3. Article VII, Section 9: (Pertaining to the Committee on Public Health.) In the second paragraph insert the words "not less than" preceding the word "seventeen," so as to read: "It shall be appointed by the President and shall consist of not less than seventeen members."

4. Article VII, Section 3: Add, "There shall be a Compensation, Contract and Industrial Medicine Committee consisting of five members, the Chairman of which shall be appointed by the President, and be an officio member of the Executive Committee, and hold office until his successor is appointed. (The original chairman's term to be until June 30, 1935.) This amendment shall take effect at the time of its adoption by the Society and the four other members of the Compensation, Contract and Industrial Medicine Committee shall be elected at that time, two members to serve until June 30, 1935, and two members to serve until June 30, 1936, and thereafter, beginning at the annual meeting in the year 1935, two members of this committee shall be nominated by the Nominating Committee."

5. Article VII: Add Section 10, to read as follows: "The Compensation, Contract and Industrial Medicine Committee shall act in matters of difference between members of the Society and insurance carriers and for this purpose the chairman of the committee is empowered to appoint two members of the Society, not necessarily members of the committee, to meet with two qualified representatives of insurance carriers for the settlement of any disputed bills between physicians and carriers. No such arbitrator shall sit in any case in

which he, or a party he represents, is interested. If no agreement can be reached by such arbitrators, the matter in dispute shall be referred to the full committee, and any member of the Society submitting to arbitration as herein provided shall abide by the final decision of the Compensation, Contract and Industrial Medicine Committee.

It shall be the duty of the Compensation, Contract and Industrial Medicine Committee to investigate all charges of unethical conduct against members of the Society as regards Workmen's Compensation, Industrial Medicine and/or Contract Practice; and to review contracts between physicians and employers on any matter pertaining to Workmen's Compensation or Contract Practice.

The Compensation, Contract and Industrial Medicine Committee, in all matters pertaining to Workmen's Compensation and/or Contract Practice, shall be a fact-finding committee and to this end shall make such investigations as it may deem proper or as it may be requested to do by the Executive Committee or by the Society; and in such investigations it shall be empowered to conduct hearings and it is hereby made the duty and obligation of members of the Society to attend and testify at such hearings when duly summoned by the chairman of the Compensation, Contract and Industrial Medicine Committee.

'It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.' (Art. VI, Sec. 2, Principles of Medical Ethics, A. M. A.) No member of the Society shall enter into a written, verbal, or implied contract or agreement of employment with any person, firm, corporation, association, club, lodge, or other similar organization, including the Federal and/or District Government, the terms of which contract or agreement are in violation of the principles herein expressed. The customary professional relationship of a physician to his patients, upon the basis of individual fees for services rendered, shall not be regarded as a contract within the meaning of this section. Every member of the Society before entering into a contract or agreement for rendering professional services shall submit a copy of his contract, if written, or a true declaration of the terms of the agreement, in writing, to the Committee on Compensation, Contract and Industrial Medicine for approval. In the event that the committee disapprove the contract, a member may appeal to the Executive Committee.

If the Compensation, Contract and Industrial Medicine Committee finds that it cannot amicably adjust any case which has received the consideration of the committee, or if the Compensation, Contract and Industrial Medicine Committee finds that which in its opinion indicates a serious breach of medical ethics on the part of a member of the Society, it shall in such instances report its findings, with definite recommendations, to the Committee of Censors."

The personnel of the Compensation, Contract and Industrial Medicine Committee, the chairman of which was appointed by the President to serve until June 30, 1935, and the members of which were elected by the Society, is as follows:

Loren B. T. Johnson, *Chairman*
Term expires, 1936
William J. Stanton
James A. Cahill, Jr.
Term expires, 1935
Joseph S. Wall
Harry H. Kerr

REPORTS FROM COMMITTEE ON PUBLIC HEALTH

Dr. Worth B. Daniels, *Chairman*

At the meeting of the Society held February 21, 1934, Dr. John Minor, in the absence of Dr. W. D. Tewksbury, chairman, read a report from the Subcommittee on Tuberculosis. After a generous discussion in which the general opinion was expressed that the details and objectives stated were most worthy of the Society's approval, the report was adopted. Among those participating in the discussion were Drs. William C. Fowler, Montgomery Blair, Jr., Kate B. Karpeles, A. Barklie Coulter, Edward Y. Davidson, H. H. Schoenfeld, Marvin M. McLean and Walter Freeman.

It was upon ballot adopted that at an adjourned meeting to be held February 28, 1934, the report of the Subcommittee on Venereal Disease would be given. On this date the chairman, Dr. William H. Hough, read the detailed report of his subcommittee. This was followed by his remarks in extension and a statistical review illustrated by slides presented by Dr. Russell J. Fields. Upon motion, duly seconded, this preliminary report was accepted.

Report of the Subcommittee on Tuberculosis

Inevitably, since it is the medical profession which works with and adds to our knowledge of tuberculosis, it is our right and our duty to interest ourselves in the various problems of the disease. From the standpoint of the public health there are certain objectives:

1. To care for those individuals who have active tuberculous disease.
2. To detect "contacts."
3. To prevent those who are actively diseased from infecting those who are well.
4. To add to our knowledge of the disease.

In the last analysis our profession claims and deserves the honor and credit for whatever success may be attained in these objectives; as a corollary, we are at fault if our efforts are conspicuously less successful than those used in other communities. Accordingly, let us examine the situation as it exists in the District of Columbia.

Until 2 years ago, the Medical Society of the District of Columbia, at least for a long period, had no official committee on tuberculosis, and the contact between the Society and the tuberculosis problem here, except through individual members, has been almost negligible. Last spring, the Executive Committee of the Society appointed a Tuberculosis Committee to act as a Subcommittee of the Committee on Public Health, which is now reporting to you.

THE DEATH RATE FROM TUBERCULOSIS

The following table shows the 4 highest death rates per 100,000 from tuberculosis in 1932, taken from a list of 46 large American cities. It includes also the death rates in New York City and Chicago, as well as 2 low rates in other cities.

DEATH RATE PER 100,000 IN 1932

San Antonio	155
Memphis	141
New Orleans	122
Washington	120
New York City	70
Chicago	63
Minneapolis	41
Akron	33
Syracuse	32

It will be observed that Washington has the *fourth highest death rate* of these cities. Washington is less congested and the general economic situation is better than in any other city in this country and should have one of the lowest death rates. Our rate is higher even than that of Baltimore, where congestion and the economic situation are notoriously unfavorable.

We may next inquire into the results of the control of some other preventable disease, for example, typhoid fever. This slide* shows the rates per 100,000 from typhoid fever in Baltimore and Washington from 1906 to 1932. We observe that the rate for 25 years has been closely similar and has declined at the same rate, indicating that the control measures are equally satisfactory.

On the same slide are the curves for tuberculosis from each city.

It may be observed further that in 1932 the death rate in Washington rose (only 1 per cent, to be sure), only 5 of these 46 remaining cities showing an increase; in the remaining 41, there was a decrease.

From the report of the Health Officer we find that in 1931, 1,062 new cases of tuberculosis were reported. Of these 304 were from Federal Hospitals, leaving a net of 758 from the District. In the same year there were 588 deaths, showing that only 170 more cases than deaths were reported.

From the studies at Framingham it was concluded that for each death in a community from tuberculosis there were 9 or 10 active cases. On that basis, in 1931, there were in the District from 5,300 to 5,900 cases. However, only 758 were reported to the Health Department, a fact which means that perhaps so little as one-seventh to one-eighth (or 12 to 14 per cent) of all cases are on record. It is stated that in the Health Department there is a record of from 600 to 900 cases. The conclusion is unavoidable that not more than one-fourth, perhaps as little as one-eighth of all active cases are reported. Is it necessary for this committee to observe that the responsibility for this situation lies squarely on the shoulders of the members of our Society?

THE TREATMENT OF TUBERCULOSIS IN THE DISTRICT OF COLUMBIA

The organized facilities for handling tuberculosis include the Tuberculosis Hospital at Thirteenth and Upshur Streets, the Tuberculosis Clinic at 301 C Street, N. W., the very recently opened makeshift tuberculosis wards at the Gallinger Municipal Hospital, and for the future, but not in operation now, the Tuberculosis Sanatorium for Children on the Defense Highway. The Hospital, the Gallinger Wards and the Sanatorium are under the control of the Board of Public Welfare; the Tuberculosis Clinic is under the direction of the Health Department of the District of Columbia. We should add to these the District of Columbia Tuberculosis Association, a lay organization, a unit of the National Tuberculosis Association, well known here for its sale of Christmas seals. This organization has, in our judgment been responsible for more useful anti-tuberculosis activities than any other agency here. There is a small nursing service run by the Instructive Visiting Nurse Society.

THE TUBERCULOSIS HOSPITAL

The Tuberculosis Hospital at Thirteenth and Upshur Streets was built in 1908 to accommodate 120 patients and is now housing 220, of whom fully 75 per cent are in the late stages of the disease. This institution is run under the supervision of the Board of Public Welfare by a medical superintendent with a staff of 1 resident, 1 assistant resident, 1 intern, and 18 graduate nurses. The medical director and superintendent is the only medical man outside the resident staff who has any important contact with this hospital; it is entirely under his direction subject only to the lay Board of Public Welfare. He is a part-time officer, engaged in private practice, and also having official supervision of the Health Department Tuberculosis Clinic. Within the past 2 weeks the same officer has also been appointed supervisor of the Children's Tuberculosis Sanatorium, so that this 1 officer supervises, medically and otherwise, 2 good-sized tuberculosis institutions and a fair-sized clinic, and does private practice. It is obvious that no one man should be expected to carry this load. Such an officer should either be adequately paid and be a full-time man, or the mode of administration should be changed. The hospital is kept constantly crowded far beyond capacity, so that all the porches which were built for recreation are filled with beds. The only recreation room available for the white men is a rather large toilet room on their floor. For the white women there is none, save as with the remaining inmates they may use the narrow spaces between their beds. There is 1 toilet for each ward. The wards were built to contain 20 patients and are now containing, with the porch at the end which is crowded with beds, 30 patients, so that the beds are not more than 2 feet apart. There are no out-of-door porches or roof space available. Until 1 month ago, the X-ray equipment, with the exception of a modern fluoroscope, was old-fashioned and inadequate and only flat plates were taken. Within a month the apparatus for the taking of stereoscopic chest plates has been installed. There is a small laboratory in charge of a technician 100 yards distant from the hospital. The postmortem room and morgue are in the same small building, so that all corpses have to be wheeled down an open path fully 100 yards long to this building in full view of the patients. The kitchen, store rooms, pantries, etc., are in the basement, as is also the dining room, which is used by the relatively few ambulant patients. These rooms are dark, gloomy, and poorly ventilated.

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* Report illustrated with lantern slides.

It is impossible in this hospital to prevent contact of the earlier cases with the far advanced, hopeless cases. The institution runs constantly about 150 patients who are far advanced, hopeless cases, unsuitable for artificial pneumothorax, phrenicectomy or other operations. There are about 75 patients who are classed as ambulatory, and of this number between 30 and 40 are receiving artificial pneumothorax. Phrenicectomy has been performed on 10 patients during the past year.

In 1933, there were 442 cases treated, 228 cases discharged, 108 deaths, 81 improved, 34 unimproved, 5 arrested (approximately 2 per cent of discharges, or approximately 1 per cent of cases treated).

This extremely small number of arrested cases shows that the hospital is not doing the work of a sanatorium, but is taking care almost entirely of advanced, hopeless cases. When we compare these results with other communities it brings home to us even more clearly our shortcomings. For instance, Rhode Island State Sanatorium with 295 patients discharged had 60 arrested cases and 24 quiescent cases, and this is a fair general average for State Sanatoria. Trudeau Sanatorium at Saranac Lake had 35 arrested and 143 quiescent cases among 385 patients discharged.

We recognize that the institution is handicapped by limitation of its personnel, supplies, etc., but it is clear that it is not at present serving as much more than a receiving ward for terminally ill patients where they may get some nursing and medical care to make their last days easier, and that it can hardly be called "a place for the healing of the sick." It is greatly over crowded; the sanitation is bad; there is minimal opportunity for proper scientific study of the patients, or modern treatment. So far as we know, no studies contributing to our knowledge of tuberculosis have ever been carried out of this institution. The intern staff is inadequate, the nursing staff too small, and the rapid turn-over in this hospital is chiefly due to the large number of deaths. It is obviously impossible to do more than the simplest routine work for the number of ill patients contained in this hospital with the present staff. We believe it is true that those of the profession who are acquainted with the conditions at the Tuberculosis Hospital hesitate considerably, except in obviously hopeless cases, to advise patients to enter. There could be no stronger indictment of an institution than this.

The Gallinger Municipal Hospital

At Gallinger Municipal Hospital, until October, 1933, cases of tuberculosis of whatever grade were handled in the open medical wards with no isolation from other patients, and the tuberculosis population of the hospital averaged around 80 persons, male, female and children, the majority of them, estimated at 65 per cent approximately, in an advanced stage of the disease.

In the past 3 months, due to the energy and initiative of Dr. E. A. Bocock, the superintendent, and the aid of the Board of Public Welfare, this situation has been distinctly modified for the better, although it is still far from ideal. After reconditioning, one of the old ward buildings was opened in October for the colored male and female adult cases; and in November a part of the floor of the children's building, which is an old reconditioned building, was opened for colored and white tuberculous children. On January 2, the old Smallpox Hospital, which stands on the border of the grounds next the crematorium and overlooking the Eastern Branch, having been thoroughly reconditioned and largely rebuilt inside, was opened for the adult male and female white tuberculous patients, so that at present the tuberculosis cases of whatever grade, after the diagnosis has been made, are transferred to the tuberculosis division of the hospital, a considerable step ahead. There is now a total capacity of 95 beds for tuberculosis alone at Gallinger Municipal Hospital, which capacity is all used.

The colored building is near the southeast corner of the hospital property. There are accommodations for 44 patients in wards of from 1 to 5 beds, the majority being 5-bed wards. The female are on the upper floor the male on the lower. Three nurses are assigned for day duty, 1 with relief for night, and there is 1 orderly. One intern is assigned to the tuberculosis service. The 5-bed wards are distinctly crowded, the rooms more suitably accommodating 4. There is 1 bathroom on each floor for 20 to 24 patients. Most of the patients are bed patients in acute or late stages of tuberculosis. Our impression is that they get reasonably adequate care, and that there is no doubt that this is a marked improvement over the previous situation. There is also a porch for each floor accommodating 3, which can only be used in good weather, for day use, not for living.

The children's ward has a capacity of 15, 8 colored and 7 white, and was filled at the time we inspected it. It consists of 2 medium sized ward rooms for the white children, and 1 large ward room for the colored, which is practically a porch. Accommodations there seemed uncrowded and facilities rather satisfactory.

The white adult building is a frame structure which has been repainted and rebuilt until it has a quite attractive appearance, although in the somewhat depressing situation of being next the crematory. Its normal capacity is 36 beds, of which 13 are female. This is a well-aired, sunny, pleasant building. All the equipment is new; modern bed pan sterilizers have been installed on each floor. This building is staffed by 2 regular nurses and 1 C. W. A. nurse on 6-hour duty during the day; there are 2 maids and an orderly. The supervisor has charge of this and the colored building, which are about one-third of a mile apart, and is a nurse of long experience. There is adequate kitchen with electric refrigeration but without satisfactory sterilizing apparatus for the dishes. Here again we have wards of 1 to 5 beds, most of which are well aired and ventilated, the large wards not being cramped as they are in the colored section. On the whole, this building compares favorably with the average small semi-private tuberculosis sanatorium.

Before the opening of these divisions, little or no thoracic surgery of any sort for tuberculosis was done. Since their opening, phrenicectomy, artificial pneumothorax and thoracoplasty are beginning to be done. Dr. F. A. Hornaday is in charge of the tuberculosis service, and Dr. Jerome J. Krick is his associate on the service; they attend the service on alternate days. Dr. Charles S. White is doing what thoracic surgery is done.

The X-ray work for these patients, when necessary, is done in the main building, and this requires their transportation varying distances by ambulance to this building. This is undoubtedly the only economic solution now, but is a thing to remember in connection with future needs.

Proper charts are kept on patients, and laboratory work is, of course, done by the hospital laboratory. On the charts which we examined there seemed to be adequate laboratory work.

This present state is by no means ideal, although it is a very important temporary step, and the facilities offered compare very favorably with those at the Tuberculosis Hospital. It should be looked on distinctly as temporary. Dr. Bocock and the Board of Public Welfare are to be congratulated on this present success, and this partial success, against considerable odds, should stimulate the profession of the District of Columbia to obtain adequate hospitalization and sanatorium facilities for tuberculosis here.

THE CHILDREN'S TUBERCULOSIS SANATORIUM

The Children's Tuberculosis Sanatorium completed within the last 2 months, is 16 miles from Washington on the Defense Highway. It is in a good location, on high ground, well back from the Highway, and the building is well constructed and modern, although on account of economy some important features, notably preparation of the roof for use as a sun porch, were omitted. The grounds are ample in extent, and there is a pleasant and adequate Nurses' Home, for some unknown reason separated almost a quarter of a mile from the hospital. There is ample space for an adult sanatorium on the grounds which could be properly separated from the children's institution.

The plan then is a quite satisfactory one, and when we consider that previous to its building there were 10 beds for tuberculous children in the District of Columbia (there are 150 in this institution), it seems doubly so, and may become, if properly staffed and conducted on the highest professional plane, a leading institution of this sort.

The outstanding needs there are as follows:

1. An absolutely first-class medical staff, self-governing, but under the advisory control of the District of Columbia medical profession.
2. Proper provision for the use of the roof as a sun porch.

PUBLIC SCHOOLS FOR TUBERCULOUS CHILDREN

There is in the District of Columbia, 1 white and 1 colored school for children supposed to be suffering from tuberculosis. There may or may not be communicable cases among these. The white school has 100 to 110 pupils of all ages; the colored, between 60 and 70. Each is under the supervision of a school inspector. In general, these children are sufficiently supervised as regards rest and food; however, the Board of Education requires the same scholastic progress in these children as in the well public-school children of comparable age, so that with much more time required for rest they have to do the same amount of work as well children. All records of these supposedly tuberculous children are kept at the Health Department Clinic, and are not available for use in follow-up visits at the school. A more detailed study of this situation will be reported later by the committee.

THE TUBERCULOSIS ASSOCIATION

We will here make only brief mention of the activities of the District of Columbia Tuberculosis Association, a lay organization which, through the energy and activity of certain of its members over a period of years without any official coöperation of the Medical Society of the District of Columbia, has probably done more to help the tuberculosis situation here than any other organization, governmental, sanatorium, or medical. The obtaining of the Tuberculosis Sanatorium was largely due to constant and prolonged effort on the part of the District of Columbia Tuberculosis Association, especially of Mrs. Ernest R. Grant, its former president and present executive secretary. They now subsidize several nurses and a doctor at the Health Department Clinic.

It is important to note that there are no facilities whatever for the proper care of any type of surgical tuberculosis in indigent or poor patients in the District of Columbia; this includes bone and joint tuberculosis, and notably, renal tuberculosis. We wish to call to your special attention also the fact that the Board of Public Welfare controls nearly 50 per cent of the hospital beds for all diseases, save mental, in the District of Columbia, and is a lay board having 1 medical member.

THE TUBERCULOSIS CLINIC

The single tuberculosis clinic in the city, that run by the Health Department, is situated at 310 C Street, N. W. This clinic should be, in a sense, the foundation on which the whole anti-tuberculosis campaign here is based, since here should be the contact with early cases, the opportunity for the prompt study of contacts, and the clearing house for the disposition of the various types of cases. It falls far short of these possibilities, and by being the weakest link in a chain where it should be the strongest, does much to invalidate the whole program in the District of Columbia. The clinic is reasonably accessible and near the center of the most highly infected area of the city. The building housing this clinic is an old renovated residence in keeping with the situation in general. The waiting room is commodious; records and files are convenient. There are 4 examining rooms, 2 of which are small and poorly lighted. Here are seen between 1,200 and 1,500 new suspect patients each year. In 1933, 737 positive cases of tuberculosis were diagnosed, about 12 per cent of the supposed cases existing in the District of Columbia. For the adequate handling of the tuberculosis of the District, it is woefully inadequate in every respect. There are 3 part-time examiners available for this work with 3 clinics held twice each day, except 2 half days devoted to children, of which more will be said later. These men are paid at the rate of $35 monthly, less 10 per cent, for the 2 children's clinics. The local chapter of the National Tuberculosis Association supports 1 full-time and 1 part-time examiner and 1 nurse. The amount of work done here barely scratches the surface of the juvenile tuberculosis problem. All types of tuberculin tests are discouraged, which is not in accord with present-day practice.

Supplementing the physical examination of patients, an X-ray unit is maintained which made 3,279 examinations in 1933; these were single flat films and not stereoscopic films. This department is perhaps the most glaring in its deficiency. It is under control of a roentgenologist. The machine is an antiquated apparatus purchased in 1915, which of necessity can only make flat plates. The roentgenologist drapes his patient, takes and develops the plate, reads and writes his report, and when not otherwise occupied repairs and rejuvenates his 19-year-old apparatus.

The nursing staff consists of 5 nurses both for office and field work. Four thousand and seventy (4,070) home visits to patients and suspected contacts were made in 1933. This is certainly a commendable amount of work done by so small a staff.

Such is the government agency trying to stem the tide of the white plague!

In contrast, in Baltimore, in 1933, there were 119 Public Health Nurses, and 68 non-official workers, volunteers, etc., a total of 187. There were 28,950 visits made to tuberculous patients, and 842 instructions in cleaning after death were given by this staff.

OTHER FACILITIES

In addition to this clinic conducted by the Health Department, other general clinics of Washington hospitals discover and handle a certain number of cases of active tuberculosis. This is particularly true of our Children's Hospital. Here there are available 5 beds in an enclosed porch occupied usually by cases of chronic bone tuberculosis, orthopedic in character. In cubicles in the open wards there are a variable number of beds available for acute cases. Of these, a large number are terminal miliary, pneumonic and meningitic types. No staff conference in the late winter and spring months is complete without its quota of deaths from tuberculous meningitis.

The out-patient department discovers quite a large number of ambulatory cases, which are reported to the Health Department.

When possible, the milder of these cases are given clinic advice and re-examinations by the attending physicians; however, there is no special home supervision possible except through the Instructive Visiting Nurse

Society; this is at best a very uncoördinated and unsatisfactory arrangement.

Until such time as an adequate central clinic can be established, this general children's clinic, with its well trained personnel, could be developed into an active "feeder" for the Children's Sanatorium; however, in its present form, without specialized social and home nursing service, it is pitifully inadequate. Added personnel here would no doubt lead to the discovery of a larger number of minimal type cases and consequently a larger number of contacts. Such an incident recently occurred in which the father of a patient in the ward was found to be an "open case" working in a downtown restaurant washing dishes and preparing vegetables.

COMPARISON BETWEEN BALTIMORE AND WASHINGTON

Let us compare in greater detail the statistics and the methods of control in Baltimore and Washington. We chose Baltimore as an example, first, because it is but 40 miles away with the same climate, and secondly, because it is not greatly larger and has roughly the same proportion of colored and white population (Baltimore, 18 per cent colored; Washington, 27 per cent). In Washington the environment and economics of the mass of the people are unquestionably superior; it is universally agreed that the better the environment and the higher the economic level, the lower are the morbidity and the mortality from tuberculosis. In 1932, in Baltimore, the negroes with 18 per cent of the population accounted for 48 per cent of the deaths from tuberculosis; in Washington, with 27 per cent of the population, for 63 per cent of the deaths. We may quote certain facts:

1. Total deaths declined in Baltimore; increased in Washington.
2. Among the negroes, deaths declined in Baltimore; increased in Washington.
3. The total rates per 100,000 declined in Baltimore; increased slightly in Washington.
4. The negro rate declined in Baltimore; remained stationary in Washington.
5. The total rate in Baltimore is lower than in Washington; the negro rate in Baltimore somewhat higher.

We may repeat that in Washington, because of better housing and general environment, because of the generally superior economic situation, we should expect the situation as regards tuberculosis to be more favorable. It is not!

Let us review briefly how tuberculosis is handled in Baltimore. When a patient with active disease is discovered and reported, all possible contacts are investigated by means of nurses from the Health Department or by volunteer workers. Contacts among the children are taken to various city or university clinics; the adults report to a clinic. Stereoscopic films are made, and in children, tuberculin tests are performed. Those harboring the disease are urged to go to a sanatorium. When a physician reports a private patient with tuberculosis, the district nurse asks the physician if he wishes her to visit the patient. If requested, the nurse takes supplies (sputum cup, holders) to the patient. All patients, convalescents, and even the homes of those who are in sanatoria are visited regularly each month, reports being made to the Health Department.

In Montgomery County, when an actively tuberculous patient is reported, the Health Officer visits the family and makes an intradermal tuberculin test on all children. Two days later a county nurse reads the tuberculin test; those children with positive tests have stereoscopic films made at the County Hospital. For the Adults, and for the children with positive tests, appointments are made at the Chest Clinic. It will be noted that the children arrive with roentgen films and a positive tuberculin test.

Having reviewed briefly the anti-tuberculosis methods of Baltimore and Montgomery County, we may ask what the situation is in Washington. Obviously no such care is available for the simple reason that only a small proportion, probably no more than one-fourth, perhaps so little as one-eighth of all cases in the District of Columbia are recorded at the Health Department. Obviously also, as is apparent to all of us, even if all cases were reported, there is lack of organization sufficient to care for the tuberculous in any such manner.

CONCLUSIONS

Your committee, from the facts cited above, has but 2 conclusions to make:

1. In the District of Columbia, methods for the discovery, control and treatment of tuberculosis are woefully inadequate. We, the members of the Medical Society of the District of Columbia have not, however, interested ourselves in the problem; we are to be censured collectively and individually.

2. That the Medical Society of the District of Columbia is the only body capable of effectively coördinating the various agencies dealing with tuberculosis in the District of Columbia, and must take an aroused and active interest in this pressing problem looking to official and effective action for the future.

RECOMMENDATIONS

Your committee makes the following recommendations:

1. That in order to coördinate activities, the Subcommittee on Tuberculosis of the Committee on Public Health of the Medical Society of the District of Columbia, be empowered to represent the Society before, and to confer with, all organizations and individuals concerned with the problems of tuberculosis.

2. That the said Subcommittee on Tuberculosis be empowered to confer with the Board of Public Welfare in order to urge efficient staffing of sanatoria by recommending suitably trained and experienced physicians applying for staff positions.
3. That the Society make every effort to further officially and through its individual members the establishment of a new adult sanatorium for tuberculosis at the site of the new Children's Sanatorium on the Defense Highway so that our adults with tuberculosis may have a chance for restoration of health which they now lack.
4. That as soon as practicable the present hospital be abandoned as inadequate and not suited for its present purpose.
    (a) That the hospital for late stage cases be constructed at Gallinger Municipal Hospital as distinct from the sanatorium for hopeful cases on the Defense Highway.
5. That the professional work of the sanatoria and said clinics be supervised by an advisory board appointed from the membership of the Medical Society of the District of Columbia, said appointments to be made by the Medical Society of the District of Columbia in coöperation with the Board of Public Welfare; the members of the Subcommittee on Tuberculosis to be members of this governing board.
6. That there be appointed for the sanatoria a list of consultants for the necessary specialties, said consultants to be appointed from the membership of the Medical Society of the District of Columbia by the Medical Society of the District of Columbia and the Board of Public Welfare, these consultants to receive adequate remuneration in accordance with the policy of the National Government, as for example, at Mount Alto Hospital.
7. That all work concerning tuberculosis in the city proper be placed in charge of a full-time officer of the Health Department.
8. That at the earliest possible moment there be a complete re-organization of the present Health Department Clinic for Tuberculosis.
9. That a campaign be instituted among the members of the Medical Society of the District of Columbia, urging them to report to the Health Department all instances of tuberculosis.
10. That this committee study the existing laws regarding tuberculosis and recommend such changes as will enhance efforts to control the disease.
11. That this report be published in the "Annals" and copies be mailed to:
    (a) The Health Department of the District of Columbia.
    (b) The Board of Public Welfare of the District Columbia.
    (c) The Board of Education of the District of Columbia.
    (d) The Commissioners of the District of Columbia.
    (e) The District of Columbia Tuberculosis Association.
    (f) The National Tuberculosis Association.
    (g) The Congressional Committees of the District of Columbia.

Subcommittee on Tuberculosis:
W. D. Tewksbury, *Chairman*
John Minor
Charles R. L. Halley
P. A. LcLendon

THE ANNUAL MEETING. PRELIMINARY ANNOUNCEMENT OF THE COMMITTEE ON ARRANGEMENTS

Extraordinary Program and Unusual Exhibits Promised for Meeting, May 2 and 3

Partial revelation of the plans of the Committee on Arrangements for the Annual Meeting, May 2 and 3, made by the General Chairman, Dr. Don S. Knowlton, indicates that no stone is being left unturned to assure that the coming scientific assembly will be the most brilliant and unusual since this series of meetings was initiated.

The Program Subcommittee, working under the supervision of Dr. Ernest E. Hadley, is not only making up a program of outstanding items contributed by prominent men from Washington and elsewhere, but is planning the events so that all may fall within the allotted time and so that the schedule may be rigidly adhered to. In addition to the visiting speakers mentioned in the previous issue of Medical Annals, i.e., Dr. Harry Stack Sullivan of New York, and Dr. Francis Clark Grant of Philadelphia, announcement is made of the participation of a number of well-known local men, including among others, Drs. Walter Freeman, Charles Stanley White, Thomas A. Groover, H. H. Kerr, Huron W. Lawson, Custis Lee Hall, and John W. Burke.

The general plan provides for formal presentation of papers on the morning and afternoon of Wednesday, May 2, and the afternoon of Thursday, May 3. Thursday morning will be occupied by the presentation of a half dozen surgical dry clinics in the Medical Society Building, and about the same number of medical clinics. Both will include the exhibition of patients and a brief snappy survey of the interesting condition under observation. Dr. James A. Cahill, Jr., has a subcommittee arranging the surgical clinics, and Dr. Walter A. Bloedorn's subcommittee is arranging the medical clinics.

A most interesting series of exhibits is being prepared under the general leadership of Dr. Eugene R. Whitmore, chairman of Subcommittee on Exhibits. Exhibits of instruments, charts, X-rays, pathological specimens, and methods of treatment are being arranged. One feature that has appealed to the exhibitors is the arrangement of a time schedule for exhibits by which a definite period is assigned to each, and the demonstrator is not required to spend many hours in attendance.

Dr. Arnold McNitt is chairman of a subcommittee arranging a complimentary luncheon to be served at the Mayflower Hotel on the first day, and Dr. Victor R. Alfaro's subcommittee is planning the annual Medical Society Banquet for the evening of the second day, the tickets for which will be $2.50.

Dr. Robert A. Bier, for his committee has announced that George Burgess Magrath, Professor of Legal Medicine, Harvard University and Medical Examiner for Suffolk County, Massachusetts, will address the Public Meeting on May 2. Dr. Magrath has wide popularity as a lecturer to lay and professional groups. Don't fail to note this date.

Entertainment, which includes Medical Society talent, is to be provided by a subcommittee working under the leadership of Dr. H. J. Russell McNitt. The provision for the entertainment of wives of visiting physicians is being planned by Dr. Maurice Protas and his subcommittee working in conjunction with the Woman's Auxiliary.

At the time of going to press most of the available space for commercial exhibits had already been reserved, with the prospect that the only thing that would limit the number of these exhibits would be the physical limitations of the building.

Dr. William T. Davis, chairman of the Subcommittee on Attendance, among other activities, has organized a flying squadron of speakers who are addressing the meetings of nearby medical societies and presenting a personal invitation to their membership from the Medical Society of the District of Columbia.

The budget for the meeting is being administered by a Finance Subcommittee under the able leadership of Dr. Ivy A. Pelzman, chairman.

The personnel of the entire committee to date of going to press follows:

Dr. Don S. Knowlton, chairman, General Committee.

Attendance: Drs. William T. Davis, chairman; Harry F. Anderson, Montgomery Blair, Jr., J. Burton Glenn, Laurence S. Otell, Leroy L. Sawyer, Jr., W. Calhoun Stirling, Fred R. Sanderson, Frederick A. Reuter.

Luncheon: Drs. Arnold McNitt, chairman; Jeter C. Bradley, Claude Moore.

Halls: Dr. A. B. Bennett.

Exhibits: Dr. Eugene R. Whitmore.

Program: Drs. Ernest E. Hadley, chairman; Joseph F. Elward, Matthew White Perry, Herbert H. Schoenfeld, G. Victor Simpson.

Surgical Clinics: Drs. James A. Cahill, Jr., chairman; Robert E. Moran, Philip A. Caulfield, Frederick C. Fishback, Valentine M. Hess, W. Warren Sager, J. Ogle Warfield, Jr.

Medical Clinics: Drs. Walter A. Bloedorn, chairman; Worth B. Daniels, Herman S. Hoffman, William J. Mallory, L. B. Norris.

Finance: Drs. Ivy A. Pelzman, chairman; J. Beaty Griffith, Joseph V. Kennedy.

Banquet: Drs. Victor R. Alfaro, chairman; William W. Chase, Stuart O. Foster, Frank D. Costenbader, Alec A. Preece.

Entertainment: Drs. H. J. Russell McNitt, chairman; Robert Howe Harmon, J. Preston Haynes, Henry W. Jaeger, Guy W. Leadbetter, S. Logan Owens.

Registration: Dr. Coursen B. Conklin.

Public Meeting: Drs. Robert A. Bier, chairman; William P. Argy, Hugo Einstein, Harry Zehner.

Women Physicians: Drs. Alma Jane Speer, chairman; Elizabeth Chickering, A. Frances Foye, H. Gladys Kain, Margaret M. Nicholson.

Moving Pictures: Dr. Daniel LeRay Borden.

Woman's Auxiliary: Drs. Maurice Protas, chairman; George W. Creswell, Jacob Kotz, W. Warren Sager.

Publicity: Drs. Herbert P. Ramsey, chairman; Don R. Johnson, John C. Wynkoop.

GEORGETOWN UNIVERSITY

New Members of the Medical Faculty

Several new professors and instructors have been appointed to the faculty of the Georgetown University school of Medicine. A brief biography of these gentlemen is as follows:

Laszlo Detre, M.D.

Dr. Laszlo Detre has been appointed Special Lecturer in Immunology. He graduated in medicine at the University of Budapest in 1895. After an internship of two years he began the study of bacteriology and for a time was assistant to Professor Metchnikoff. He has held the following positions: Assistant, and later Associate in Bacteriology, University of Budapest School of Medicine; Visiting Physician of the Tuberculosis Dispensary of the Budapest Polyclinic; Director of the Jenner-Pasteur Institute of Budapest; Military Physician in the World War and War Chief Hygienist of the Hungarian Army; and Director of the Hungarian Serum Institute. Dr. Detre is the author of the antigen theory and created the term "antigen" in 1899. He discovered the serum reaction for syphilis contemporaneously with Wassermann in 1904. He has done original work in the development of serum for anthrax, erysipelas, black leg and hog cholera. He discovered the differential cutaneous reaction of human and bovine tuberculosis in 1908. He discovered also the so-called middle zone phenomenon in 1928. At the Philadelphia Congress in 1923 he gave a presentation of the new "India-ink phenomenon" to make visible otherwise non-visible antigen-antibody reactions. In January 1934 he became a member of the National Institute of Health in Washington.

W. F. R. Phillips, M.D.

Dr. Phillips has been appointed Visiting Professor of Anatomy. Dr. Phillips graduated from the George Washington University School of Medicine in 1890. He was Professor of Practical Anatomy and Dean of the George Washington School of Medicine from 1904 to 1909. He was Professor of Anatomy of the University of Alabama School of Medicine from 1912 to 1915. Since that time he has been Professor of Anatomy of the Medical College of the State of South Carolina.

Joseph L. Schwind, A.B., A.M., Ph.D.

Dr. Schwind has been appointed Associate Professor of Anatomy, the appointment to take effect July 1, 1934. Dr. Schwind obtained his first two degrees from Cornell University and his degree of doctor of philosophy from Yale University in 1928. He has served as Assistant in Histology and Embryology at Cornell University; as Assistant in Biology at Yale University and for six years as Instructor in Anatomy at the Cornell University School of Medicine.

Philip Lewis Gray, A.B., A.M., M.D.

Dr. Gray has been appointed Associate Professor of Pharmacology. Dr. Gray obtained his bachelor's degree from the University of Maine in 1924 and his master's degree from Hamilton College in 1925. He graduated in medicine from the Rochester University School of Medicine in 1931. He has served as Instructor in Biology at Hamilton College, Assistant in Physiology at the University of Rochester School of Medicine, and Adjunct and Associate Professor of Physiology at the University of Texas School of Medicine.

J. R. Schenken, M.D.

Dr. Schenken has been appointed full-time Instructor in Pathology. Dr. Schenken graduated from the Iowa University School of Medicine in 1928. After an internship at the Montreal General Hospital he returned to the University of Iowa School of Medicine, where he undertook the special study of pathology and where he was an Assistant in Pathology and later Instructor in Bacteriology and Pathology of the Iowa University School of Medicine. He also served as Resident Pathologist of the Iowa University Hospital.

ACTIVITIES OF SECTIONS

Section on Nervous and Mental Diseases

H. D. Shapiro, M.D., Chairman

The regular meeting of the Section on Nervous and Mental Diseases will be held Thursday, April 5, 1934, in the Library of the Medical Society Building. This will be an open meeting. The program:

SYMPOSIUM ON MENTAL HYGIENE

1. "Mental Hygiene Through Child Guidance Clinics." Paul J. Ewerhardt, M.D.
2. "The Rôles of the Pediatrician and of the Children's Hospital in Mental Hygiene." Loren B. T. Johnson, M. D.
3. "The Mental Hygiene Program in Operation." Ralph P. Truitt, M.D., of Baltimore.

Discussion to be opened by William A. White, M.D.

Section on Ophthalmology and Oto-Laryngology

George B. Trible, M.D., Chairman

On the evening of March 21, 1934, the Section on Ophthalmology and Oto-Laryngology furnished the scientific program for the regular meeting of the Medical Society of the District of Columbia. The essayists, D. Campbell Smyth, M.D., and A. S. MacMillan, M.D., of Boston, presented the subject: "Diseases of the Paranasal Sinuses from the Roentgenologist's and Clinician's Standpoint." Preceding the meeting a dinner, attended by approximately 40, was given at the Mayflower Hotel in honor of the essayists.

ACTIVITIES OF SMALLER MEDICAL SOCIETIES

Washington Academy of Surgery

The Washington Academy of Surgery met in the Library of the Medical Society of the District of Columbia on February 9, 1934, Dr. H. H. Kerr, presiding. The program:

1. "Angioneurotic Edema with Report of a Case with Visceral Manifestations." Charles S. White, M.D. Discussion: Drs. John H. Lyons, Grafton Tyler Brown and George Tully Vaughan.
2. "Obstructive Jaundice. Report of a Case." Joseph P. Shearer, M.D. Discussion: Drs. Wm. B. Marbury, Alec Horwitz, F. C. Fishback, Joseph Horgan and Arch. L. Riddick.
3. "Intestinal Obstruction. Report of an Extraordinary Case." Fred R. Sanderson, M.D. Discussion: Drs. H. H. Kerr, Joseph Horgan and Charles S. White. Dr. Sanderson was congratulated on his excellent result and on the "intestinal fortitude" of his patient.

The next meeting of the Academy will be held on Friday, April 13. Members of the Medical Society of the District of Columbia are cordially invited to attend.

The George M. Kober Medical Society

The regular meeting of the George M. Kober Medical Society was held on March 19, 1934. The program:

1. "Report of Case of Vidian Nerve Neuralgia." Don R. Johnson, M.D.
2. "Surgical Indications in Chronic Digestive Diseases." William M. Ballinger, M.D.

Smith-Reed-Russell Society

School of Medicine, George Washington University

The Smith-Reed-Russell lecture, "The Study and Control of Tularemia," for February was given by Dr. Edward Francis of the National Institute of Health.

The March lecturer was Dr. John Wheeler, Professor of Ophthalmology at Columbia University and Director, of the Ophthalmological Institute; his subject, "Exophthalmos."

On February 12, 1934, Dr. Elliott Proctor Joslin, Clinical Professor of Medicine, Harvard Medical School, addressed the students of the George Washington University School of Medicine, on the subject, "Diabetes."

Pan American Medical Association

District of Columbia Chapter

The Chapter held its fourth meeting of the season on Sunday, March 11, 1934, at the Legation of Venezuela. The program:

1. "A Welcome to the Pan American Medical Association." Pedro M. Arcaya, M.D.
2. "Diagnosis and Treatment of Amebic Dysentery." Dámaso de Rivas, M.D., Professor of Parasitology, University of Pennsylvania.
3. "'Evipal,' A New Anesthetic." Charles Stanley White, M.D.
4. "Some Achievements of Venezuelan Medicine." Arnoldo Gabaldón, M.D. (Caracas, Venezuela.)
5. "Our Newer Knowledge of Sprue." Lewellys F. Barker, M.D., Professor Emeritus of Medicine, Johns Hopkins University.

Dr. Albert Soiland, of Los Angeles, President of the Section on Radiology of the Association, was introduced as an out-of-town guest.

Henri De Bayle, M.D. President	Aristides A. Moll, M.D. Secretary

Washington Medical and Surgical Society

The fifth meeting of the Washington Medical and Surgical Society for the year 1933-34 was held at the Columbia Country Club where Dr. J. M. Fadeley was host to the Society at dinner. The program:

1. "Calcium in Asthma." John C. Eckhardt, M.D.
2. "Case Report. Mesenteric Cyst in a Child Fourteen Months Old." E. B. Broocks, M.D.
3. "Case Report. Pancreatitis." Caryl Burbank, M.D.

The next meeting of the Society will be held on March 26, 1934, with Dr. E. M. Ellerson as host. The essayist will be Dr. Joseph F. Elward. Case reports will be presented by Drs. Tomas Cajigas and John C. Eckhardt.

American Association for the Study of Neoplastic Diseases

The next regular Microscopic Demonstration will be held March 29, 30 and 31, 1934, in the Surgical Pathological Laboratory, Room 537, New Dispensary Building, Johns Hopkins Hospital. You are invited to attend. Bring your microscope. Among the subjects studied will be tumors of the muscle, tendon, joint, nose and throat, lymph tissue, pituitary, brain, etc. Those desiring to attend should communicate at once with Dr. Eugene R. Whitmore, Secretary of the American Association for the Study of Neoplastic Diseases, 2139 Wyoming Avenue, N. W., Washington, D. C.

A paid subscription of $10 annually will provide to members: (1) A reprint including written material and 12 photomicrographs monthly for 12 months; (2) a subscription to The American Journal of Cancer for a period of one year. This is made possible by a special arrangement with Dr. Francis Carter Wood, Editor of the Journal, who will carry the proceedings of the Society in the form of monthly reports in the Journal, and, in addition, will mail to the members individually (provided at least 70 subscribe) reprints under separate binding. The name of the organization will also be carried on the cover of the Journal.

The Kober Lecture

This year the Trustees of the Kober Foundation announce that Walter Bradford Cannon, A.M., M.D., Sc.D., George Higginson Professor of Physiology at Harvard University, will present "The Story of the Development of our Ideas of Chemical Mediation of Nerve Impulses," on March 28, 1934. These lectures were made possible through contribution of the late Dr. George M. Kober, a former dean of Georgetown University School of Medicine and for years an honored member of the Medical Society of the District of Columbia.

BILLS BEFORE CONGRESS

of Interest to the Local Profession

S. 2800—A bill to prevent the manufacture, shipment and sale of adulterated or misbranded food, drink, drugs, and cosmetics, and to regulate traffic therein; to prevent the false advertisement of food, drink, drugs, and cosmetics; and for other purposes.

The Senate Committee on Commerce gave an extended hearing on this bill, February 27 to March 3. This proposed legislation is based on the Tugwell Bill which has been redrafted a second time in the light of criticisms and suggestions and is now being referred to as the Copeland Bill. Copy of the hearing is available in the Society's office or application may be made through a Senator.

H. R. 6663—This bill has passed the House of Representatives. In the Senate, amendment was made which would restore to veterans certain hospital privileges previously denied them by the Economy Act.

S. 2118—A bill, introduced by Mr. King, relating to proceedings in adoption in the District of Columbia. Section 3 of this bill reads:

"The Board of Public Welfare, upon receipt of a copy of any such petition (for adoption), shall make an investigation of the moral and social character and financial standing of the petitioner or petitioners; the identity . . . antecedents, physical condition, mental capacity, and property of the person to be adopted."

The bill broadly provides that "any adult person or persons actually resident in the District of Columbia who shall have resided therein for at least one year prior to the filing of a petition . . . may file a petition to adopt any person, whether such person be an adult or a minor."

S. 3032—A bill, introduced by Mr. McCarran (by request), to require financial responsibility of owners and operators of vehicles for hire in the District of Columbia, and for other purposes.

This bill provides for the carrying of a bond or policy of liability limited to any one judgment to $2,500 for bodily injuries or death and $500 for damage to or destruction of property; "and all judgments recovered upon claims arising out of the same transaction or transactions connected with the same subject of action to $5,000 for bodily injuries or death and $1,000 for damages to or destruction of property. . . ."

H. R. 8568—A bill, introduced by Mr. Dirksen, to amend section 11 (i) of the District of Columbia Alcoholic Beverage Act.

"Retailer's License, Class E.—Such a license shall authorize a person entitled to retail, compound, and dispense medicines and poisons, to sell from the place therein described, beverages in sealed packages not to exceed one quart each, for medical purposes, and only upon prescription of a duly licensed practicing physician for liquors as defined by the U. S. Pharmacopoeia or alcoholic beverages differing in strength, quality, character, or purity from the pharmacopoeial standard, provided the professed standard be plainly stated upon the bottle, box, or other container thereof."

ABSTRACT OF PAPER READ BEFORE THE SOCIETY

(*Continued from page 75*)

were not seen. The electrocardiogram showed inverted T waves in Leads I and II. The patient refused surgical treatment of the prostate, nitrogen retention ensued and he died in uremia, October 29, 1931. During this illness, the use of oxygen relieved the patient's dyspnea and materially lightened the cyanosis. While argyria was considered a possibility, the favored diagnosis was that of pulmonary arteriosclerosis, based on the association of chronic but variable cyanosis with long standing asthma, bronchitis and emphysema. The necropsy revealed silver deposits and bluish pigmentation throughout the connective tissue of the entire body, chemical analysis supporting the histological study. The pulmonary arterial tree was essentially normal. The heart showed left ventricular hypertrophy and myocardial degeneration; the aorta contained atheromatous ulcers; general arteriosclerosis was marked, and the kidneys were contracted. There was prostatic hypertrophy, purulent cystitis and bilateral pyonephrosis.

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III APRIL, 1934 NUMBER 4

NEUROPSYCHIATRIC ASPECTS OF FEMALE ENDOCRINOLOGY*

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Within the few minutes allotted to us as contributors in this symposium, I shall undertake to outline what appear to be important leads to investigate from a neuropsychiatric viewpoint. If we include, in such a survey, all types of disturbances of the nervous system, motor and sensory symptoms, vegetative and trophic phenomena and psychic deviations with their anatomical, physiological and chemical correlations, my remarks must be brief and necessarily lacking in any great wealth of experimental and argumentative evidence in support of the contentions.

NEUROLOGICAL ASPECTS

We must at once recognize that all sexual characteristics, whether primary or secondary, are associated with other fundamental factors not only through the hormonal influence of the glands, but also through a chromosomal correlation. "The endocrine glands generally are only condensers or multipliers of certain chromosomal potencies and not everything which may be attributed today to pure endocrine disturbances is in reality of endocrine origin" (Bauer 1924). In 1924 Timme thought that the gonads of either sex have little if any influence on the individual, either physical or psychical, until the advent of puberty, at which time the secondary sex characteristics develop; although against this is the idea that theelin is formed throughout life from the fetal stage to menopause. Castration before puberty in the female is so uncommon that we have little scientific data. A sect in India is reported to have castrated little girls who grew into tall, thin, masculine types of women with no breast development; occasionally it has been done surgically for ovarian tumors and of course many times experimentally on animals, but we have practically no data on any possible nervous system effects. According to the eminent investigator Pende (1928) pure dominant constitutional insufficiency of the sex glands is seldom found. "More frequently encountered are constitutional anomalies of other endocrine glands which have a very great influence on sexual development, such as the hypophysis, thyroid, adrenals and the pineal body."

The ovaries have been incriminated in the following conditions which have neurologic aspects or "moments."

(a) Infantilism from original deficiency, characterized by a general puerility, amenorrhea, absence of secondary feminine sexual characteristics, scanty hair and obesity.

(b) Acquired ovarian insufficiency, with such symptoms as peripheral vasodilatation, crises of subjective sensations of heat, sweats, continuous or paroxysmal tachycardia, insomnia, headaches, facial neuralgias, lumbago, neuromuscular asthenia, uncertain memory, irritability, anxiety, gastrospasm, vomiting, vertigo and obesity.

(c) "Vagotonic" crises—supposed to be related especially to the evolution of the corpus luteum: seen before the menstrual periods and at the beginning of pregnancy—with such expressions as pallor, fainting, vomiting, lessened arterial pressure, positive oculo-cardiac reflex, Samogyi sign and mental depression.

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* Read before the George Washington University Medical Society, December 16, 1933.

(d) Hyperovaria, the syndrome of Dalche (1906), with precocious puberty and secondary sex characters, abundant menses, pain during and before the first day of the periods, intermenstrual leukorrhea, developed sexual instinct, thinness, pallor, large lower extremities contrasting with the upper, lowered arterial pressure, nervous debility, uneasiness and a tendency to loquacity and erotic crises. (Laignel-Lavastine, 1919).

Many vegetative nervous system reactions are here plainly in evidence. "Gynecologists have long been accustomed to assume a special functional connection between the ovaries and the sympathetic nervous system. Perhaps the most convincing evidence of such a relationship is the well known condition of vasomotor instability that often arises at the climacteric with the presumed ebbing of the ovarian hormones. Hannan has reported that the classic hot flushes can be evoked at will by the injection of adrenin, in women at the menopause. That the vasomotor instability can be ameliorated by the administration of ovarian preparations is the only claim regarding the efficacy of such medication that has received any very significant adherence at the hands of competent therapists. Even this claim, however, receives far from unanimous acceptance. Unconscious psychotherapy is particularly difficult to exclude here. On the experimental side Hoskins and Wheelon using the technic previously described found that responses to sympathetic stimulation were materially increased in dogs by the removal of the ovaries." (Hoskins and Lee, 1930).

The sympathetic nervous system is also more excitable during the menstrual period, and the researches of Frank revealing an increase of theelin in the blood and of that excreted in the urine before menstruation may have some bearing on the phenomenon. Theelin is said to exert a soothing effect on the sympathetic nervous system and, therefore, may act in a compensatory way toward some circulating toxin. By quantitative analysis of the theelin content of the human ovarian tissues, Pratt, Newell and Allen found greater amounts at the time of ovulation. It is not known at present what relationship this may have to the increase in permeability of the meninges during menstruation, as demonstrated by Benda (1925) using sodium fluorescein, hemoglobin and bromine technics, and thus a possible chemical exposure of the nervous system. A disturbance of the endothelium of the capillaries seemed to be the basis of the increased permeability which was also noted in some pregnant women, particularly those who were toxic. Eufinger and Arntz also demonstrated the increase of excitability of the sympathetic nervous system during menstruation by utilizing a combined pharmacologic-physical test devised by Danielopolu, the atropine orthochemostatic reaction. Eighty-three per cent of the cases showed this increase in excitability. Blöch and Bergel (1933) demonstrated an increased blood sugar during the first days of menstruation together with changes in the tone of the vegetative nervous system; particularly marked were these reactions in women with a thyreotic constitution, and in all, the thyroid functions were accelerated during this period.

The relation of lesions of the mid-brain to changes in fat metabolism (Erdheim) and to genital atrophy (Aschner) has been firmly established by experimental as well as clinical evidence. The first convincing report that the spinal cord of vertebrates contains vegetative centers was made by Friederich Goltz in 1863. He, with Freusberg, studied the function of the lumbar cord of the dog, where they discovered centers present in the lower part of the cord, for the genital organs, the bladder, the sphincter ani and for the large intestine as well as for the blood vessels of the lower extremities and the pelvic organs. There is a sexual center also in the brain anatomically and functionally related to the pituitary. Aschner (1925) published the changes found in young dogs after extirpation of the pituitary gland or of its anterior lobe. There was a complete arrest of the growth in length of body and in mental development, persistence of juvenile fat and lanugo and infantilism of the sex organs. Extirpation during pregnancy caused abortions. In the adult animals changes in the sex organs occurred only after injuries of the diencephalon and not after extirpation of the pituitary. Clinically the relationships are also seen in several syndromes. Raab (1924) observed 43 patients with "cephalic obesity" or hypogenitalism. He preferred this term to dystrophia adiposo-genitalis "because he believed with Biedl that the symptoms may be caused either by an affection of the pituitary gland or of the brain centers, or of the communication between them. The height of the dorsum sellae in some patients might speak for the latter possibility. In one case the pituitary gland seemed to be the only organ affected. Dystrophia adiposo-genitalis is not a uniform disorder, as each of its component elements may appear isolated. It seems that the centers for genital organs are on the floor of the third ventricle near to the pituitary gland, while the obesity depends on centers in the tuber cinereum near the mamillary bodies." (Abst., J. A. M. A., 1924, **82**, 1486.)

In this type of disorder any attempts to evaluate etiologically such cases as the one reported by Lutzenkirchen (1924) must include emotional factors, and perhaps some higher psychic centers. His patient was a young woman who had headaches, polydipsia, frigidity and atrophy of the genital organs during a quarrelsome life with her husband whom she had married against the will of the family. She recovered completely from what was clinically an adiposo-genital dystrophy in a few months after being divorced and resuming satisfactory marital relations with another. The literature contains many similar examples of psychic conditioning of the reproductive functions and their disorders. In one of Zempleni's cases premature menstruation set in as the result of apprehensiveness before a ball and thereafter always occurred prematurely under the same conditions; another of his cases was a woman who had an abortion from severe influenza during the tenth week of her first pregnancy. She had been told by her friends that all subsequent pregnancies would terminate during the tenth week, and her apprehensiveness during 2 following pregnancies had just this effect, and there was no other apparent cause for the abortions. During her next pregnancy the physician purposely maintained that she was not pregnant until the fatal 10 weeks were past, and the pregnancy was carried to term.

Timme and other clinicians attribute some migraines to the pituitary-genital relationship. Migrainous girls menstruate rather late and their periods are usually delayed. The actual migrainous attack quite frequently hinges about the menstrual period, and the low blood pressure, retardation of pulse rate, lowered temperature, polyuria, yawning, fatigue, cerebral and pituitary congestion, and evidences of pressure on the cavernous sinus point toward altered pituitary functions. Recently Riley and his associates (1933) studied the excretion of prolan and theelin in the urine from 11 women suffering from periodic attacks of migraine. In the women, prolan usually appeared preceding the attacks and the female sex hormone was absent or much reduced during the crisis. Moreover, an injection of follutein resulted in the appearance of a typical attack in 7 of 9 women investigated in this manner. Prolan appeared in the urine of 2 men studied, during the attack, and in one of them a prolan-headache relationship was established. The mechanism suggested is one of hypophyseal hyperfunction or of ovarian hypofunction and thus prolan plays an important rôle. In some cases where a clear relationship was not established it was necessary to assume the presence of some as yet unknown factor.

Tetany also presents some special features in connection with the female functions. "The increased liability of pregnant women to tetany has been a matter of common medical knowledge for many years. More than 20 years ago Erdheim noted that pregnant animals are usually sensitive to experimental destruction of the parathyroids. Total destruction of these glands commonly causes the prospective mothers to abort, if not to die in violent convulsions. Richardson has published the results of a study which suggests that a large proportion of pregnant women suffer from some degree of tetany (hence parathyroid deficiency), especially in the second half of the gestation period. Severe spasm of the calf muscles is cited as a frequent manifestation of the deficiency though perhaps postural difficulties incident to child bearing play a part here." (Hoskins, 1933).

Of interest to neurologists and psychiatrists as well as to internists is the new genital deficiency theory of arteriosclerosis recently outlined by Doljan (1933). He thinks that arteriosclerosis is not the cause, but the result of hypertension and that this is due to endocrine changes associated with the decline of the natural genital functions. There are two antagonistic groups of glands in the individual; the genital-vasodilator group, comprising the ovary and perhaps the gland of Bartholin in women and the testes and prostate in men and the anterior hypophysis in both sexes; and the vasoconstrictor group, comprising the suprarenal and the posterior lobe of the hypophysis. The action of these two groups is coördinated by the thyroid. Normally the vasodilator effect of the first group is offset by the vasoconstrictor effect of the second group, and the vagosympathetic equilibrium is maintained. At the climacteric (masculine or feminine) the equilibrium is destroyed because of the disappearance or decrease of the hormones of the genital glands; accordingly the vasoconstrictor glands gain a progressive supremacy. The tonus of the sympathetic increases the capillary spasm, the normal osmosis through the vascular walls is impeded and the nutritive and eliminating functions of the blood are disturbed. The vascular endothelium is subjected to constantly increasing friction. The hypertension which was moderate, oscillating and purely functional at first, becomes permanent resulting in vascular lesions and the development of common arteriosclerosis. (J. A. M. A., 1933, **101**, 1,038.)

PSYCHIATRIC ASPECTS

One of the early workers in this field was Hergt of Heidelberg, who in 1870 wrote an excellent memoir on disturbances of the mind and diseases of women; another early investigator was Alexander Skene of Brooklyn, who in 1878 studied the relations between gynecological diseases and insanity in the Kings County Insane Asylum, and where he decided that ovarian diseases had at least predisposing influence. Hobbs in Canada, Rohi in Maryland, Manton and Taussig in Detroit, Brown in New York, McDonald in Philadelphia, Bonn in Milan, and Schultz in Jena, to mention only a few, have been interested in the subject and have found pelvic disorders to be more common in the psychotic than in the sane.

Rohi of Maryland performed 34 operations, chiefly removal of the ovaries and tubes, resulting in 11 mental cures and 9 improvements. His indications for operation were hallucinations referable to the generative organs and increased at the time of menstruation. This report of results apparently served as a match to ignite a world-wide conflagration of castration of females with psychoses, leading to many untoward consequences. A similar castration attitude still flares up occasionally in one clinic or another.

Taussig at the St. Louis Sanatorium examined 537 women with various psychoses and found 252 with lesions in the pelvic organs. The development of the genital organs was arrested in 10 per cent. In dementia praecox half of the women were diseased, with an unusually large number of arrests in development, which were also frequent in the mentally defectives. Ubermuth's recent work (1933) showing a lowered functional capacity in the reticulo-endothelial system in women with lost or diminished sexual functions (castration, amenorrhea, menopause, etc.) and the same finding in cases of dementia praecox are highly suggestive in this connection.

The observation that abnormal hair development is often associated with anomalies of menstruation dates back to ancient times and subsequent researches have verified that impression. Examples of this combination are very numerous on psychiatric wards. Scheuer's (1912) observations on 25 women with hypertrichosis illustrate this point nicely, for 15 had amenorrhea, 6 dysmenorrhea and 4 metrorrhagia, and the biopsychiatric importance of this association can be ascertained by any review of the literature on hypertrichosis. Hypertrichosis, adiposis with masculine aspect, genital disturbances, amenorrhea and virilism constitute a syndrome associated with psychopathies, and regarding this Laignel-Lavastine said that endocrine tests show bearded women "gardent le vestibule de l'endocrino-psychiatrie."

Sterility which may be due to endocrine disturbance produces a strong psychic load for many women who wish to be reproductive, and frigidity which may be due to pituitary tumor or ovarian deficiency particularly when it develops after a period of normal sexual life, has many important psychic components. Cases of frigidity which are very common require a complete investigation, since it may be produced by abnormal locations of erogenous zones, by psychic inhibition and emotional traumata, as well as by endocrine deviations. Certainly no healthy woman is frigid, and 50 per cent or more of them are neurotic.

Zempleni points out that the influence of the functional phases of the female genitalia (menarche, menstruation, pregnancy, labor, puerperium, and menopause) on the psyche is generally recognized, for in connection with those phases serious psychic reactions and even psychoses and suicide have been observed; however, the influence of psychic factors on the genital functions is not so frequently recognized. "Accurate information as to the rôle played by the harmonic influence of the gonads upon the various mental functions is still far from clear. Even in thyroid and pituitary disorders the rôle played by the gonads may be far from negligible and it is not easy to disentangle the specific contribution of the disordered action of the gonads to a pluriglandular syndrome." (Campbell). One should hesitate to ascribe mental symptoms or character traits to endocrine influences when racial characteristics, individual temperament, training and total life situations all enter into the reaction pattern. Notkin, upon finding only 8 cases of psychosis with endocrinopathy of gross character among 6,000 psychotic patients, justly concluded that the combination is rare. There are also many endocrine patients without psychoses, and in many psychotic patients one finds evidence of endocrine significance in the laboratory tests. In a consecutive series of 4,000 individuals, Rowe and Pollock found 250 patients with psychoses and psychoneuroses. About three-fourths of these patients presented some form of endocrine disorder, with pituitary and thyroid types predominating. There were 54 ovarian types, only 12 of which were psychotic. The psychoses were of the manic-depressive reaction variety. In the present stage of our knowledge, these authors hesitate to ascribe any etiological relationship. However, perhaps the psychiatrist is partly justified when he finds evidence of endocrine disorder in those having a mental breakdown, in thinking in terms of an inadequate resistance of the constitution which may render the individual less able to cope with the social and other vicissitudes of life. We should find hope in the present tendency toward coöperative endeavor between physiologists and psychiatrists in this interesting problem.

The ovaries suffer in all affections of the other endocrine organs regardless of whether the function of the latter is increased or decreased. From an anatomic standpoint there are a few suggestive gynecological-psychiatric combinations. Fraenkel (1924), the gynecologist, in his survey of the women in mental hospitals found more cases of grave hypoplasia of the sex organs than in his usual gynecologic practice. It was most pronounced in schizophrenia, less in epilepsy and imbecility and never in other mental diseases. Between 1919 and 1925 the percentage of patients with hypoplasia of the genital organs in the Wômen's Clinic of Halle University nearly doubled (0.8–1.5); the majority of those patients were born between 1898 and 1905 and were thus in the period of puberty during the years of the war. Kustner (1926) is inclined to ascribe undernourishment or carbohydrate diet with vitamin deficiency during puberty as the cause of the hypoplasia in many of these women. Loeb's (1921) experiments on the effect of undernourishment on the mammalian ovary and uterine growth in guinea pigs seem to substantiate the importance of the amount and character of the foodstuffs in this connection. If Sir Frederick Hopkins is right, hormonic and vitamic actions are similar, if not, in fact, different levels of the same evolutionary process.

In conclusion, it should be emphasized that endocrine disorders, whether they have been established by clinical, anatomical, physiological or therapeutic methods are face to face with the nervous and mental syndromes. It may be a relationship of casuality, of association, or merely of coincidence; thus, every case must be investigated from its evolutional, morphological, physicochemical and psychical aspects. The mental part must not be neglected, since perhaps it is in these psychic intermediaries that the answer to many an obscure question will be found in the future. The recommendation for the present must be coöperative investigation and an attempt to differentiate between pathogenic determinants and pathoplastic phenomena.

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LEAD ENCEPHALOPATHY*

Report of a Case

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Lead encephalopathy, as well as lead colic, were probably first mentioned by Paul of Aegina in the seventh century. He describes a colicky affection often followed by epilepsy, paralyses, or atrophies. Centuries later, Avicenna noticed the same chain of symptoms. Neither suspected lead as its etiological factor. It is rather surprising that although peripheral neuritis was recognized as an occupational hazard of lead miners in France and England (where it was known as the "dry belly-ache palsy") as early as 1726, no mention is made of cerebral manifestations. The connection between lead and certain cases of fits, delirium and paralysis was first brought out by Tanquerel des Planches in 1839.

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* This and the following paper by Dr. Freeman were read before the Section on Nervous and Mental Diseases of the Society, January 4, 1934.

Lead encephalopathy is comparatively rarely seen in adult life, but in infancy and early childhood it is by no means infrequent. Where the condition is the result of occupational hazard even a cursory history will usually bring out the connection. It is the accidental contacts that result in diagnostic problems and I would like to mention a few of these sources. Tetra-ethyl lead in motor fuels is now widely recognized as a source of danger, but only a few years ago it resulted in many deaths through ignorance of its toxicity. Liquors that have been distilled through lead coils or kept in lead containers, as well as water conducted through lead pipes, frequently contain enough lead to produce definite and serious symptoms. This is true too of certain cheap face powders. The danger here is not to the user of the powder but usually to some unfortunate second party, often a child, who manages to get it into his alimentary tract. Before the passage of the Pure Food and Drugs Act a widely used abortifacient contained enough lead to make the victims wish that they had continued with their pregnancies. But the one thing causing more cases of lead encephalopathy than any other is the habit that children have of chewing upon painted toys, cribs and woodwork.

It is probable that lead is absorbed from the gastro-intestinal tract and carried through the organs, mainly the liver, brain and bones in soluble form. Most of it is eventually deposited in the bones in inert form and from the bones is gradually remobilized and excreted in the urine and feces. It seems probable, too, that the onset of lead encephalopathy long after any discoverable exposure to lead is due to increased parathyroid activity and a sudden de-leading and release of calcium and lead from the bones with a renewed onslaught upon the nervous tissues. This often happens in supervening fevers or acidosis.

The symptoms of lead encephalopathy are not by any means pathognomonic. They merely indicate central nervous system involvement and may run the gamut from mere irritability and insomnia to coma and death. Convulsions are the most constant symptom and may be generalized or focal. One frequently notices choked disc accompanied by marked increase in the spinal fluid pressure often simulating intracranial neoplasm. Signs of pyramidal and extrapyramidal involvement are not rare. Sensory changes on the other hand are rather rare. The mortality is quite high, at least 25 per cent, and sequelae, such as paralyses, blindness, hydrocephalus, epilepsy and mental deterioration, are common, in fact, almost the rule.

The diagnosis depends usually upon the combination of several factors. Of these the history is far and away the most important. In adults one will most frequently obtain an occupational history, while in children the parents will most often remember that the child had the habit of putting its playthings into its mouth or nibbling at the crib. A lead line due to deposition of lead sulphide in the capillaries of the gum margins is frequent in adults and very rare in children. Basophilic stippling is suggestive but again not constant. It may be entirely absent or may vary markedly in the course of the disease. An important diagnostic aid but one difficult to carry out at times is the quantitative determination of lead in the urine and feces. An equally important aid and one much easier of execution is X-ray evidence of rather wide, dense bands at the growing ends of the long bones. Chemical analysis have shown that these contain about three times more lead than is present in other parts of the bone.

Treatment may be divided into two phases, that during the acute stage and that following apparent recovery. In general, deposits of lead in the bones may be hastened by factors that tend to increase calcium deposition and bone formation, mainly a high calcium diet, calcium intravenously if necessary, viosterol, cod liver oil and sunlight. Sodium thiosulphate has also been used. But unfortunately in lead encephalopathy removal of lead from the brain is slow and not much influenced by therapy. The most beneficial treatment is aimed at the control of the high intracranial pressure that is usually present and that probably accounts for some of the sequelae. This may be done by spinal or ventricular puncture, or as has been advised by McKahnn, by the frequent intramuscular injection of small amounts of 25 per cent magnesium sulphate. If improvement or cure should take place the question of de-leading comes up. Since a sudden metabolic upset may once more flood the system with lead it is highly desirable from the academic standpoint, at least, to get rid of it. Should this be decided upon it should be done slowly, carefully and be accompanied by frequent laboratory examinations. Parathyroid hormone is probably the best agent, although ammonium chloride may also be used.

Report of Case

The patient, a colored boy, aged 3 years, was admitted on November 27, 1932, to the Gallinger Municipal Hospital, having been transferred from Freedman's Hospital which he had entered on November 23 in a convulsive state. The diagnosis there was spasmophilia, later changed to meningitis following a lumbar puncture which was said to show pus cells too numerous to count. There was no report of culture. In view of later findings we feel that some mistake was made. Examination on admission showed an extremely ill, colored child. The head was retracted, and there were bilateral Kernig signs, unequal pupils, divergent squint, right facial palsy and ptosis of the right eyelid. There was marked tremor of the right arm and leg, less marked on the left. The leukocytes of the blood numbered 13,000, and the erythrocytes 5,000,000. There was no stippling of the red blood cells. The lumbar puncture showed 200 mg. of protein, 11 lymphocytes, 2 polymorphonuclear leukocytes, 50 mg. of sugar and 642 mg. of chlorides. The first impression was that the child had a cerebral tuberculoma. Further lumbar punctures showed no decrease in sugar and chlorides. There was no increase in the cells and the pressure remained normal. Ten days later examination revealed a suggestive lead line on the gums, and a blood smear was reported as showing marked stippling. X-ray of the bones was negative as well as the urinary lead determination. The father stated that the child continually sucked its painted toys and crib. Meanwhile the child grew steadily worse notwithstanding the usual treatments including several transfusions. Generalized and Jacksonian convulsions were frequent. Tremors of the limbs were nearly constant. Optic atrophy and severe contractures appeared. He finally developed bronchopneumonia and died. The brain was examined by Dr. Freeman, who will report his findings.

THE HISTOPATHOLOGY OF LEAD ENCEPHALOPATHY

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Lead is a general protoplasmic poison, but its effects upon the nervous system are both destructive and stimulative. There is marked degeneration in these cases of the ganglion cells and probably also of the oligodendroglia with hyperplasia and hypertrophy of macroglia and microglia. Even more striking in many cases is the hyperplasia of the vessels leading to endarteritis of the small cortical vessels simulating a condition found in syphilis. There may be actual thrombosis of these small vessels with the production of minute infarcts. The lesions in the brain are too diffuse, however, to be explained upon the basis of vascular changes alone, and while the exact nature of the injury caused by lead is not yet elucidated, still there is a probability that it acts in some manner to disturb the cellular metabolism of the more delicate elements in the nervous system, the neurons and oligodendroglia.

In the case reported by Dr. Schneider, there was extensive atrophy of the brain which weighed less than 750 gms., while the amount of cerebrospinal fluid was in great excess. The brain was pale and of irregular consistency, sclerotic in some parts and soft in others. There was marked convolutional atrophy, gaping of fissures and dilatation of the ventricles. Upon section through the brain some small linear infarcts were found beneath the cortex. The cortex itself was thin, brownish, and sometimes showed separation of the upper and lower cortical layers by a rather indefinite fissure.

Myelin sheath stains showed marked loss of myelin in the white matter with preservation, however, of the U fibers and also of the corpus callosum, internal capsule, and the main afferent and efferent pathways of the cerebellum. Minute examination of the cerebral cortex revealed severe endarteritis with considerable perivascular infiltration, not only by histocytes, but also by lymphocytes, in some places taking on the characteristics of a true non-suppurative inflammation. The ganglion cells of the cortex were often shrunken, sometimes swollen, bleached; and vacuolated and some extraordinary figures of "calcified" nerve cells with bulbous processes somewhat resembling jackstones were found in the hematoxylin and eosin preparations. The third and fourth layers of the cortex were often wiped out, and occasionally fissure-like cysts lined by glia fibers and traversed by small vessels were found replacing the cortex. Astrocytes were extraordinarily large and abundant, their elongated processes showing many minute fat globules ranged along their surfaces. Hortega cells were also remarkable for their number, size and content of fat.

Preparations of exceptional beauty were obtained by impregnating the sections according to the Cajal and Hortega methods and counter-staining with Sudan III. Fat was very abundant, both in the cortex and subcortex. Very few oligodendrocytes could be identified and the processes could not be impregnated. The Bielschowsky method revealed scarcely any nerve fibers in many portions of the cerebral cortex and great diminution elsewhere. The involvement of the basal ganglia, midbrain and brainstem was less marked, but the cerebellum showed rather characteristic atrophy, gliosis, fat release and endarteritis with two or three small infarcts.

DISCUSSION

Dr. H. D. Shapiro: The differential diagnosis of lead poisoning in the absence of definite history of exposure is often difficult. I have recently observed 2 cases in which vague symptoms, such as malaise and loss of ambition and energy, in the absence of all definite findings, lead to an investigation of the occupation. Both of these men worked in the same automobile repair shop and 1 of them 6 months previously had had an attack of pain, said to be neuritis, in 1 arm and 1 leg. The working conditions on a cold damp floor were blamed for this development, but the Compensation Commission disallowed the claim. The occupation of these men caused them to use a lacquer to spray on the fenders and body, but this lacquer contained no lead. However, in order to finish the job, they were required to go over the finish with bare hands moistened with gasoline containing tetra-ethyl lead. With the supposition of lead poisoning aroused, careful examination revealed stippling of the red cells and an undue amount of lead in the urine. It seems probable from the mildness of the exposure and the unspecificity of the symptoms that many cases are overlooked.

Dr. Fred E. Steele, Jr.: I have also observed a case, in which the possibility of lead poisoning has come up, in a garage mechanic who for a year has complained of severe headaches and who shows papilledema of 4 diopters. Aside from a slight tic in the left side of the face, the physical and neurological examinations are negative. I shall be glad to report the results of this investigation later.

Dr. Joseph L. Gilbert: There is little question that cases of lead poisoning are being overlooked on account of the difficulty of ascertaining contacts with lead and also on account of the new methods of exposure that are being constantly introduced into industrial life. The great variety of symptoms makes it particularly difficult to ascertain the presence of lead poisoning.

Dr. Charles R. L. Halley: Tetra-ethyl lead differs from most other known compounds in being absorbed directly through the skin. In most other instances the digestive tract is the necessary portal of entry. In suspected cases the careful study of the blood film is apt to prove the most reliable of all the clinical tests. To show how difficult the problem may be, I recall some years ago having observed a married couple who complained of obstinate constipation as the only symptom. It was finally disclosed that their drinking water came through lead pipes. There was probably some characteristic of the water that gave it more power to dissolve the lead.

Dr. Delmar Goode: The diagnosis of lead poisoning is difficult in the absence of stippling and of other objective phenomena. Vague pains and muscular aches often come first, and even when the neuritis is quite marked it is often difficult to trace it to lead. I observed a case in which the question was finally solved only by necropsy and the finding of characteristic nerve cell changes in the spinal cord, the history indicating that the patient more than a year before had had his only exposure to lead working in a battleship hull for a half day, 3 times a week.

Dr. Schneider, in closing: It seems probable that absorption of lead may also take place through the lungs as in the case of tetra-ethyl lead in gasoline fumes, as well as from other compounds thrown into the air, the best example of which is the recent Baltimore epidemic following the burning of battery casings. Acute cases often occur in adults and some may be picked up upon epidemiological grounds. For instance, in an alcoholic patient admitted to a hospital in Boston, lead poisoning was definitely traced to distillation using a lead coil, and upon examination of 2 of the patient's visitors, the lead line and stippling were easily detected.

Dr. Freeman, in closing: Modern chemical methods have extended the scope of the laboratory in the diagnosis of lead poisoning, notably an electrophoretic colorimetric determination that is sensitive to 0.02 mg. If the level in the blood stream rises to 0.1 mg. symptoms are apt to occur. The test for the urine is carried out more easily. The most satisfactory treatment would seem to be fixation of the lead in the least harmful places, the bones, by calcium administration with viosterol. Some years ago when the first cases of poisoning with tetra-ethyl lead appeared, it was thought that some organic compound was responsible, but later investigations showed that it was characteristically intoxication due to lead. The reason for the severity of the symptoms was the great diffusibility of this particular organic compound of the element.

ALLERGIC SINUSITIS*

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The objects in preparing this paper are to establish an understanding of the part allergy plays in the etiology of sinusitis and the relation of infection to allergic rhinitis, and to suggest methods by which the allergist and rhinologist can aid each other.

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* Read before the Section on Ophthalmology and Oto-Laryngology of the Society, January 18, 1934.

Most people catch cold, and many of these victims of an acute coryza develop acute purulent sinusitis. Many of these cases of acute sinusitis subside and the sinuses retain no trace of the previous infection, but a certain number remain infected, filled with hypertrophic tissue and, in many cases, pus. The stages through which the coryza becomes a sinusitis, and how it runs its course to recovery can be explained easily, but it is more difficult to say why all of them do not recover.

By way of illustration of my thesis I wish first to briefly review 2 clinical cases.

Case 1: L. A., a female, aged 18 years, had been treated for 4 years for sinus trouble. Her complaints were nasal obstruction, discharge, headache, and pain in the left cheek. She had undergone innumerable washings of the left antrum without checking the course of the infection and had finally submitted to surgery. A left Caldwell-Luc and intranasal exenteration of ethmoid cells with removal of a large portion of the left middle turbinate had been done 2 years before with only partial relief. Two years after the operation she still required 2 or 3 treatments a week to free her nasal passages of secretion and provide enough relief to make the condition bearable. Tests revealed that the patient was sensitive to chicken, duck and goose feathers. The day following the tests the patient was more nearly free of nasal congestion than she had been in years. Treatment was immediately begun, and the patient showed continued improvement. Four months later, treatment was stopped the patient having been free of congestion, discharge, and headache for over a month. She returned 3 months later stating that within the preceding week there had been a return of congestion without discharge. A few injections of mixed feathers extract at this time again relieved her.

Case 2: A. K., a female, aged 52 years, complained of hay fever since childhood. At first her trouble was seasonal, beginning in August and lasting until frost, but of recent years it had become perennial, worse in June, and at its height in the late summer. She had been tested in 1920, found positive to spring and summer pollens, and treatment was recommended, but for some reason specific treatment had never been undertaken. She was able to escape the fall hay fever each year by spending the season in Europe where there is no ragweed. For the past 7 years she had been treated for retrobulbar neuritis secondary to a chronic sinusitis. Apparently, treatments were of little avail and the eye condition became worse despite numerous resorts to surgery. Her hospital record revealed the following: In 1924, opening of both sphenoids; infection found on right. In 1925, removal of right posterior ethmoid cells. Three months later the same year, submucous resection of the nasal septum and removal of polypi from the right posterior ethmoids. In 1928, opening of the posterior ethmoids and sphenoids, and irrigation of the right antrum. Following this, despite impending blindness, her surgeon was afraid to do more. Her headaches and nasal symptoms remained about the same, always flaring up with her hay fever. Physical examination, April 28, 1930, revealed a fairly well nourished patient with slight hypotension. The blood morphology was normal with the exception of a slight increase in platelets. The urine was negative. The patient was sensitive to giant and short ragweeds and timothy, also to goose and duck feathers, and dust. There were less marked reactions to other pollens, epidermals, and inhalants which were considered of negligible importance. The diagnostic impression was: (1) Hay fever due to spring and summer pollens, (2) rhinitis, allergic, due to feathers and dust, (3) pansinusitis, (4) retrobulbar neuritis. Specific treatment with grass and ragweed extract was begun, and the patient experienced an excellent summer. Extracts of mixed feathers and dust were added in the fall, but during the winter she had a flare-up of the right antrum lasting 3 to 4 days. In the meantime, however, headache had decreased, vision had improved, and the patient had been very well. Subsequent seasons were satisfactory with regard to allergic and eye symptoms, but trouble with the right antrum returned and continued until a radical right antrum operation became necessary. This was performed, January 12, 1933. Following this the patient returned to normal and has continued in good condition to the present time with the exception of some mild nasal symptoms during the 1933 ragweed season. The vision in both eyes has returned to 20/15. Although apparently an excellent result has been obtained, treatment is to be continued indefinitely since this is too vital an issue for gambling.

It is established that the most common factor causing sinusitis is mechanical obstruction to drainage. Given an acutely infected paranasal sinus, if it is properly drained of its exudate, it is soon well. But if there is some interference with its drainage its prospects for recovery are poor. Obstruction may be caused by anatomical peculiarities, such as a deviated nasal septum pushing against the middle turbinate, a turbinate hypertrophied to compensate for an unusually wide nasal chamber, a septal spur intruding into the middle meatus obstructing the natural flow of secretions. Tumors in the nose also come under this heading, but attention is particularly directed to the soggy and edematous turbinates seen in allergic rhinitis which interfere with drainage and predispose to infection. Nasal polypi, a frequent finding in hyperplastic non-suppurative sinusitis, are found most frequently in the middle meatus, and they may so obstruct the natural openings of the antra, the frontal sinuses, or the ethmoid cells that in the event of acute infection, empyema results. Hansel, Dunn, Kern and Schenck, and others state that most nasal polypi are of allergic origin.

Next, consider the lining membrane of the sinus itself. Normally it is a thin tissue consisting of a layer of pseudo-stratified, ciliated, columnar epithelium lying upon a basement membrane beneath which is the tunica propria composed of vascular connective tissue and supplied with mucous and serous glands. Compare this to the tissue found in an allergic sinus. Here there is thickening and stratification of columnar cells with loss of cilia in the thicker areas, plus occasional patches of desquamation. There is a hyalinization of the basement membrane, while the subepithelial spaces are loose, filled with serum, and infiltrated with cells. Glandular structures are dilated to cystic proportions. Proetz has described an allergic reaction in an antrum in which, following exposure to feathers, the membrane thickened from normal to approximately a centimeter and presented the typical appearance of a polypoid antrum. In such a sinus drainage is poor, ventilation is inadequate, and an excellent culture medium is available for any organism present. In this particular case no mention is made of subsequent infection, since the patient refused further studies, but it can be seen that frequently repeated reactions of the type described might eventually result in permanent tissue changes and the development of an infectious sinusitis.

Grove and Cooke found positive cultures in 28 of 29 antral membranes, and in 35 of 51 ethmoidal, sphenoidal, and turbinal membranes. This is to be expected in any series of surgical sinusitis cases, as the case is not surgical until it is chronically infected. Their claim that there is infection in practically all chronic hyperplastic membranes is conclusively proved. However, acute hyperplasia is another thing. "Allergy," Duke says, "is a general disease that involves not only the surfaces of the nasal membranes, but also the membranes at the orifices of the nasal cells and those inside the nasal cells, and causes swelling, hyperplasia and polypi." In the presence of a condition of this sort infection follows, chronic infection with hyperplasia resulting.

As evidence of the part allergy plays as a cause of infection, witness the number of autumnal hay fever cases that continue to have symptoms, generally nasal obstruction and discharge, long after the pollen is out of the air. Frequently, if the sinuses are not already too badly involved, adequate care of the hay fever relieves the patient of his post-seasonal difficulties. The following case illustrates this point.

W. O., an attorney, aged 30 years, came for treatment of fall hay fever. He had been suffering for the past 4 years with frequent colds, nasal congestion, and discharge. The trouble was always worse during late August and September when, in addition to the above, he had excessive sneezing, itching of the eyes and nose, profuse watery nasal discharge and lacrimation. The family history was negative for allergic disease. Examination showed a somewhat pale and moist mucous membrane. There was swelling of the turbinates of both nares, particularly the lower. The septum was deflected to the left low down and to the right high up, but it did not impinge on the turbinates. A small amount of thin, colorless secretion was seen in both nares. On transillumination both frontals and antra were cloudy. The patient showed typical allergic reactions to both giant and short ragweeds in a dilution of 1:5,000. Since this was in May, a preparation for the ragweed season with injections of ragweed extract 3 times a week were begun immediately. No other treatment was given. He went through the hay fever season without trouble and has remained so since, being free from head colds. At a recent examination the nose was dry and the turbinates were pink in color with adequate breathing and drainage space in both nares. On transillumination both frontal sinuses and antra were normally translucent.

I do not wish to give the impression that I consider sinusitis with hay fever adequately cared for in all cases by the treatment of the pollinosis. Duke has supplied figures on nasal examinations of 100 patients with seasonal pollinosis, 100 with perennial vasomotor rhinitis and 100 controls. Anatomical hazards were even in the 3 series, each group showing about 32 per cent of deviated septa. Twenty-seven per cent of the perennial cases had chronic infection, with 24 per cent showing polypi. Of the seasonal cases 6 per cent showed infection and 10 per cent polypi. Six per cent of the controls showed chronic sinusitis.

This does not suggest seasonal hay fever as a cause of infection. It is only in those cases in which the congestion remains for a long period of time that the infection becomes permanently established. The young man in the above case report is one of these fortunate individuals in whom desensitization to 1 atopen conferred resistance to other agents. Relieved thus simply of the allergic factor, his sinuses drained briefly and were well. It is a question how much could have been done for him by intranasal therapy without attention to his hay fever.

A satisfactory result is not always achieved so easily, and it is possible only when the infection has failed to gain a firm foothold. Weille studied tissue taken from the sinuses of 26 allergic patients. His observations on the gross pathologic changes are in part: "The sinus membrane was found to be from moderately to greatly thickened, the thickness varying from 3 to 15 mm. The membrane was often polypoid. Polyps would occasionally fill the antrum. In 3 instances the antral lining was found to harbor multiple pea-sized pus pockets. These pockets were apparently buried in the tissue itself and not draining. When the pockets were opened, the pus which they contained appeared to be under pressure. Three large antral cysts were found."

It is inconceivable that a sinus with embedded pus pockets or containing a large cyst would respond to the ordinary desensitization procedures. Surgical removal of the tissue is necessary, and this must be combined with a thorough study and care of the allergic influence in the case. The infection, or a large part of it, can be removed, but the allergic habitus of the patient persists. Hence the regrowth tissue in the sinus is allergic and capable of starting trouble anew. Given an adequate cleaning out of infection, the ultimate result of the case depends on how successful we are in controlling allergic symptoms.

Conclusions

1. Allergic tissues in the nasal accessory sinuses are predisposed to chronic infection.
2. This predisposition is favored by 2 factors:
   (a) The character of the tissue.
   (b) Poor drainage and ventilation of the sinuses.
3. Surgical removal of infected tissue from sinuses is insufficient.
4. Treatment of the allergic factor alone is likewise inadequate.
5. Proper treatment of such cases requires the coöperation of the rhinologist with the allergist.

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The Fundamentals of Internal Medicine*

DISEASES OF THE HEART

(Continued from March, 1934)

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The Arrhythmias and Electrocardiography

The arrhythmias or irregularities of the heart beat are not separate diseases of the heart. They may occur with or without organic heart disease and have very little specific relationship to etiologic types of heart disease, although certain ones are more prone to occur in certain types of heart disease than others. They are due to disturbances of impulse conduction. Pulsus alternans is a special form of arrhythmia. All of the arrhythmias except pulsus alternans may be diagnosed by means of the electrocardiogram, but there are other facts in reference to the heart besides the arrhythmias which are demonstrable in electrocardiograms and not otherwise. Some of the arrhythmias are easily diagnosed without the aid of electrocardiograms, others can not be diagnosed except by means of them. On the other hand, the electrocardiogram may be normal in cases of serious heart disease.

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* This is the sixth instalment of a treatise on Diseases of the Heart prepared to orient the older graduates of medicine in the changing concepts of diseases of the heart and to review the subject for younger graduates. Other instalments will follow until completion. If there is a demand for similar treatises on other systems of the body they will be forthcoming.

Electrocardiography is not an indispensable method in the practical diagnosis and management of cardiac disease and heart failure, but it is a very important adjunct. It has practically replaced or obviated the need of sphygmography. A brief description of the technic of electrocardiography will be given, after which the arrhythmias will be considered and then the facts of heart disease demonstrable only by electrocardiography.

TECHNIC OF ELECTROCARDIOGRAPHY

The electrocardiogram is a photographic record of the electrical changes occurring in the heart during the heart beat. The technic consists in the photographic registration on a moving sensitive film of the oscillations of a string or magnet mirror located in an electromagnetic field and due to minute changes of current that enter from electrodes attached to the skin of the patient. Complete repose is necessary since all active muscles produce an electric current. An electrocardiographic lead is the connection of any two parts of the body by electrodes and wires with the recording galvanometer. Experience has shown that the most suitable parts of the body for use as lead points for routine clinical use are the forearms and the left leg. The three conventional leads—right forearm and left leg (lead 1), right forearm and left forearm (lead 2), and left forearm and left leg (lead 3)—do not give a complete picture of the actual spread of the electrical current in the heart muscle, but they give information about the projection of the so-called electrical axis, its angle and its electromotive force in the plane parallel to the anterior surface of the body.

The form of the electrocardiogram consists in a horizontal line with deflections at intervals above and below the line. The line is said to be iso-electric and indicates either inactivity or neutralization of positive and negative waves; the deflections above the line are waves indicating the preponderant spread of the action current (relative negativity), while those below the line indicate the spread in the opposite direction. The waves have various forms and are named the P, Q, R, S, and T waves.

Electrically and geometrically, Lead 2 is equal to the sum of Leads 1 and 3, i.e., the sum of the lengths of similar waves in these two leads, added or subtracted as indicated by negativity and positivity, is the length of the same wave in Lead 2. This is so because the three conventional lead points when connected form a triangle essentially equilateral.

In the process of making an electrocardiogram neutralization of the skin or body current is first accomplished by means of a switchboard battery through several levels after attaching the electrodes to the patient and making connection between Lead 1 and the galvanometer through the switchboard. Then comes standardization, so that the shadow on the camera moves sharply just one centimeter when one millivolt of current is introduced into the circuit from the switchboard battery. The record of Lead 1 is then made and the same procedure repeated for Lead 2 and Lead 3.

The P wave is the first wave in the electrocardiogram and is usually small and upright. It represents auricular systole. It is normally 1 to 3 millimeters high and not over 0.1 second in duration as measured in Lead 2. It is followed after an interval called the P-R interval, normally between 0.12 and 0.20 second, by the Q-R-S complex. This is the first ventricular deflection, and represents the spread of the excitation wave through the ventricular conduction system. The Q wave is a small downstroke just before the R wave and may be absent. The R wave is an upright stroke of an amplitude varying normally from 5 to 35 millimeters (lead 2). This is followed by the S wave, a small downstroke which may be absent. The whole Q-R-S complex normally does not measure over 0.1 second in duration. The T wave follows the Q-R-S complex after an interval of 0.05 to 0.15 second, the S-T interval. It is an upright deflection normally, although in Lead 3 it may be inverted. It is 2 to 10 millimeters high and 0.10 to 0.25 second in duration. It probably represents the retreat of the excitation wave in the ventricles.

Electrical axis deviation is of some interest clinically, as already indicated in preceding sections. The study of the Q-R-S waves in Leads 1 and 3 may by simple inspection reveal the preponderant axis deviation. The axis deviation is to the left when the main part of the Q-R-S complex is upright in Lead 1 and inverted in Lead 3, while it is to the right when the reverse situation exists. Normally the Q-R-S wave in Lead 1 is directed chiefly upward, but in Lead 3 it may be normally slightly inverted or notched. A simple formula for determining the degree of axis deviation is to subtract the sum of the amplitudes in millimeters of R_3 and S_1 from the sum of the amplitudes of R_1 and S_3.

$$\text{Index} = (R_1 + S_3) - (R_3 + S_1)$$

If this index measures over 30 millimeters, abnormal left axis deviation exists, with a normal border zone of 20 to 30; if it measures under -15 millimeters, abnormal right axis deviation is present, with a normal border zone of -10 to -15.

THE ARRHYTHMIAS

Sinus Tachycardia.—This is simply an increase in rate of the heart beat due to speeding up of impulse initiation in the normal pacemaker, the sino-auricular node. It occurs from many causes, the commonest of which are exercise, excitement, fevers and hyperthyroidism. The electrocardiogram shows only a rapid rate without alteration of the form of the waves.

Sinus Bradycardia.—There is merely a decrease in rate of stimulus production. In certain individuals bradycardia is of congenital origin or is a familial trait. It occurs in so-called vagotonic individuals, during convalescence from febrile diseases like typhoid fever, influenza and diphtheria, during prolonged bedrest, and following prolonged nervous or physical exhaustion. It has nothing to do with heart block. The form of the waves in the electrocardiogram is essentially normal.

Sinus Arrhythmia.—This arrhythmia is of no pathologic significance in the phasic form, which is common in children and young adults. It consists of a slowing of the normal heart beat during inspiration and a speeding up of the heart beat during expiration. A more unusual form is the non-phasic, in which there is a waxing and waning of the rate of the normal heart beat irregularly and without reference to respiration. This form occurs in adults with heart disease and rarely in children without heart disease. It may occur in mild digitalis poisoning. In phasic sinus arrhythmia there is no alteration of the electrocardiogram except for the rhythmic change in spacing between beats, whereas in the non-phasic form the P wave changes in contour and amplitude without, however, any alteration in the P-R interval (shifting pacemaker in the sino-auricular node).

Premature Contractions (Extrasystoles; Ectopic Beats).—This is one of the commonest of the arrhythmias. It consists in the usually irregular initiation of a beat in some irritable or ectopic focus in the auricles, ventricles or auriculoventricular node. These abnormally originating beats occur before the normal beat is due, i.e., in diastole. They are followed by a pause, which in the case of auricular premature beats is of variable length, but which in the case of ventricular extrasystoles is "compensatory," i.e., of such length that the time elapsing between the preceding normal beat and the succeeding normal beat is equal approximately to the duration of two normal beats.

There may be one or more ectopic foci, and the premature beats may be occasional or frequent. These hyper-irritable areas in the heart are due to many causes, either of nervous or toxic origin without definite cardiac pathology, or associated with some form of heart disease. In themselves they are of little importance, not causing serious embarrassment of cardiac function. They have little if any significance prognostically, but their presence naturally calls for a careful study of the heart to determine whether organic disease is present.

While usually occurring irregularly, they occasionally occur rhythmically, and if so, most commonly in the form of pulsus bigeminus, i.e., an ectopic beat following every normal beat. This is a common manifestation of digitalis poisoning. Pulsus trigeminus is sometimes noted. Rarely an interpolated ectopic beat occurs, i.e., one falling midway between two normal beats without the dropping out of the normal beat which the premature beat usually displaces.

The force of contraction of the premature beat depends mainly upon the period of diastole in which it occurs, being strongest the later it appears. The stronger beats produce a radial pulsation, the weaker ones do not. The feeblest beats may not even open the semilunar valves.

When premature contractions occur frequently auricular fibrillation may be simulated, but careful study may reveal a fundamentally regular rhythm behind the irregularity.

The patient may or may not be conscious of the arrhythmia. Auricular premature contractions are not felt, but systolic ones frequently are, especially by sensitive individuals, who describe them as "palpitation," "fluttering," "thumping," etc.

The electrocardiogram reveals the premature contractions. In premature beats of auricular origin the Q-R-S-T complex is usually normal, but the P wave is commonly of abnormal size or shape or inverted, and the P-R interval is usually shortened. The whole beat is, of course, premature and followed by a diastolic period longer than normal. Premature beats of ventricular origin do not have a P wave. The Q-R-S-T complex is bizarre and usually monstrous. The Q-R-S complex is widened, and the T wave has the opposite direction of this complex. The contour and direction of the Q-R-S complex and T wave vary with the ventricle involved and with the portion of the ventricle affected. When the premature beat arises in the auriculoventricular node, which is relatively rare, the Q-R-S-T complex is not greatly deformed, but the P wave is anomalous or inverted and occurs close to the Q-R-S wave, synchronous with and buried in it or immediately following it.

Paroxysmal Tachycardia.—This is a not uncommon condition of rapid beating of the heart, occurring in paroxysms, with a sudden onset and an abrupt termination. The paroxysm may last minutes, hours or days. The heart rate is remarkably constant and the rhythm regular except in the ventricular form, in which it may be slightly irregular. Like premature contractions paroxysmal tachycardia may be auricular, nodal or ventricular, depending upon the seat of origin of the abnormal rhythm, which apparently is a series of ectopic beats. The auricular origin is most common. The paroxysm is often preceded and followed by one or more premature beats. The patient is frequently aware of the rapid beating of the heart or has a sense of precordial oppression or smothering. He feels faint, giddy and may even be somewhat mentally confused. He looks pale and gray and is sometimes cyanotic. The pulse is small and rapid, from 160 to 200 per minute. The rate is not influenced by exercise or other causes of change in rate normally. Vagal or orbital pressure may cause temporary or permanent cessation of the tachycardia. Occasionally in prolonged attacks, usually when the heart is diseased, there may be pulmonary edema, cardiac exhaustion and death. This paroxysmal arrhythmia may occur with or without cardiac disease. It may recur for years. The auricular form is not rare in hyperthyroid patients. The ventricular form is of the most serious import. The electrocardiogram reveals the tachycardia and shows its origin by the form of the various complexes.

Auricular Fibrillation.—This is a very common form of arrhythmia occurring with or without heart disease. It may be transient, paroxysmal or permanent. It is very common in rheumatic, hypertensive and hyperthyroid heart disease. In aortic valvular disease and uncomplicated coronary artery sclerosis it occurs very infrequently. Its onset may date from an attack of coronary thrombosis. There is absolute irregularity of the heart beat due to the fact that the auricles do not contract as a unit but as a series of small fibrillary waves. The ventricle responds quite irregularily. Although there are several hundred auricular waves per minute the ventricles respond to a limited number, usually between 100 and 150, because of the innate slower rate of conduction of the junctional tissues, the auriculoventricular node and bundle. Occasionally, because of loss of ability of these tissues to conduct, sometimes as a result of digitalis poisoning, the ventricles beat regularly and independently of the fibrillating auricles. The most accepted theory of auricular fibrillation is that there is a circular pathway over the auricles along which the excitation wave travels continuously (so-called circus movement). The patient may or may not be aware of the disturbance. The pulsations are usually extremely irregular in time and force, but when the ventricles are beating relatively slowly, as after digitalization, they may appear to be fairly regular. When the rate is rapid there is usually a pulse deficit, some of the ventricular beats each minute not coming through to the wrist. The blood pressure is difficult to determine accurately because of the great variability in force of the beats. Often the diagnosis of the arrhythmia may be made by means of the physical examination, but sometimes electrocardiographic study is necessary. The latter reveals the total irregularity of the spacing of the ventricular complexes, absence of P waves, and the presence of many little waves between the Q-R-S-T complexes. Other abnormalities of the heart beat may coexist, such as premature beats and bundle branch block. The presence of auricular fibrillation in cases of heart disease makes the prognosis more serious.

Auricular Flutter.—There are rapid but regular small auricular systoles, the ventricles responding regularly to every second, third or fourth auricular contraction. The auricular rate is 240 to 350 per minute, the ventricular usually 120 to 175. This arrhythmia is rather uncommon. It may be paroxysmal or permanent. Heart disease may or may not be present. The rate is constant unless there is a shift in the degree of auriculoventricular block, and is uninfluenced by normally accelerating influences. The mechanism is supposed by some to be a circus movement similar broadly to auricular fibrillation, and cases are observed clinically of all gradations and transitions between flutter and fibrillation. The electrocardiogram shows many fine, regular auricular waves ("F waves"), with usually equally spaced ventricular complexes.

Heart Block.—Disturbance of the wave of excitation through the heart is called heart block. The site of interference with the passage of the wave may be anywhere: (1) between the sino-auricular node and the auricles, (2) between the right auricle and the ventricles in the auriculoventricular node or bundle, (3) in the bundle branches, (4) in the arborizations of the Purkinje system. The cause may be nervous, toxic or organic; the first from vagal stimulation, the second from acute infections (influenza, rheumatic fever, diptheria, etc.) and drugs (digitalis, physostigmine, adrenalin, morphine, etc.), the third from fibrosis, gumma, calcification, tumor.

1. Sino-Auricular Block is a condition in which the normal impulse formation in the sino-auricular node is delayed, so that for a variable length of time and from time to time there is no contraction whatever, either auricular or ventricular, unless during the long pause the auriculoventricular node inaugurates an impulse which causes the ventricles to contract (ventricular escape). The condition is probably due to increased vagal tone and is of no great importance. The electrocardiogram shows the retardation of the normal complexes.

2. Auriculoventricular Block is what is usually called "heart block." There may be (1) merely a prolongation of conduction time between the auricles and ventricles, as shown only by the lengthening of the P-R interval in the electro-

cardiogram; (2) occasional dropped beats, the electrocardiogram showing the normal P wave without the Q-R-S-T complex at the time of the pause in the heart beats, the P-R interval becoming more and more prolonged until the ventricles fail to respond entirely; (3) regularly recurring dropped beats, so that ratios of auricular to ventricular beats of 10:9, 8:7, 6:5, 4:3 and 3:2 may occur; (4) a ventricular contraction to only every second, third or fourth auricular impulse, i.e., 2:1, 3:1, 4:1 partial heart block; (5) complete heart block with idioventricular rhythm, i.e., the auricles and ventricles beating independently of each other. In the last instance the electrocardiogram shows the P waves occurring at their regular rate and the Q-R-S-T complex occurring independently at a much slower rate, usually from 25 to 35 in adults and from 50 to 70 in infants and children. The ventricular rate is not much accelerated by the usual influences. Heart block is due to drug poisoning, mainly digitalis; to some acute infectious disease, such as rheumatic fever, diphtheria, influenza and pneumonia; or to some organic lesion involving the bundle of His (auriculoventricular bundle), such as the fibrosis of arteriosclerotic heart disease, calcification in the region of the bundle, old rheumatic heart disease, infarction of the interventricular septum, gumma, rarely tumor and rarely a developmental defect. If acute and of toxic (drug or infectious) origin, heart block may entirely disappear. If chronic and due to an organic lesion, the patient may live comfortably for years, the cardiac damage responsible for the block determining the course of events. When there is complete heart block and the heart rate is very slow, or if periods of prolonged asystole (absence of ventricular contraction) occur, attacks of the Adams-Stokes' syndrome may occur. These attacks vary from mild giddiness to complete unconsciousness, sometimes with convulsions. During one of these attacks the patient may die.

3. Intraventricular Block is discussed under the next heading.

Pulsus Alternans.—This abnormality of the peripheral pulse consists in alternation of large and small pulse waves with a regular rhythm. It is best demonstrated by the careful measurement of the blood pressure, during which the beats at the highest point of the blood pressure are heard at only half the rate of the palpable pulse waves for several millimeters, after which all of the waves come through. The condition is not evident in the electrocardiogram. It is of serious prognostic import, forecasting complete heart failure usually within a few months, and it is usually associated with hypertensive heart disease, coronary thrombosis or aortic regurgitation.

FACTS CONCERNING THE HEART DETECTABLE ONLY BY ELECTROCARDIOGRAPHY

T Wave Negativity.—Inversion of the T wave except in Lead 3 is often of considerable significance. The use of digitalis in large dosage often produces marked inversion of this wave, and this cause must always be ruled out before considering the condition of importance. When due to digitalis the whole S-T interval is usually greatly inverted. The T wave is also inverted or opposite to the Q-R-S complex in bundle branch block and premature contractions. But the T wave may be inverted independently of these conditions in Lead 1, Leads 1 and 2, Leads 1, 2 and 3 and Leads 2 and 3, when it usually denotes serious myocardial injury due to hypertension, coronary arteriosclerosis or coronary thrombosis. In the latter condition the inversion occurs several hours after the thrombosis and lasts for days, weeks or months; the T wave usually arises from high up on the down stroke of the R wave with a convex bowing upward at the onset and a depression at the end (*Pardee's sign* or the *coronary T wave*). An iso-electric or diphasic T wave may have the same significance as a frankly inverted T wave.

Prolongation of the P-R Interval.—Prolonged conduction time between the auricles and ventricles is of serious import and is the first stage of more severe forms of heart block. Normally the P-R interval is not more than 0.2 second.

BUNDLE BRANCH BLOCK (INTRAVENTRICULAR BLOCK).—Impaired or blocked conduction along the left or right bundle branch, commonly due to coronary arteriosclerosis, is usually determined only by means of the electrocardiogram, although it may be suspected by the visible or palpable split in the apical systolic thrust. When there is left bundle branch block, which is much the more common, there are abnormally wide, notched or splintered Q-R-S waves (over 0.1 second in duration) with the main part of the wave reaching well above the base line in Lead 1, well below it in Lead 3 and low or diphasic in Lead 2, the T waves being in the reverse direction to the main deflection of the Q-R-S waves. In right bundle branch block, which is relatively rare, the Q-R-S complex is directed downward in Lead 1 and upward in Lead 3, the other features being the same as in left bundle branch block.

ARBORIZATION BLOCK.—This term is applied to lesser degrees of bundle branch block due to deflective conduction in the Purkinje network. The Q-R-S complexes are widened and slurred or notched.

ABNORMAL AXIS DEVIATION.—This electrocardiographic fact has already been mentioned. Normally the Q-R-S wave in Lead 1 is directed chiefly upward but in Lead 3 it may be normally slightly inverted or notched. Abnormal left axis deviation results chiefly from four main causes: (1) Displacement of the heart to a horizontal position by a high diaphragm, (2) preponderant enlargement of the left ventricle, as in hypertension and aortic regurgitation, (3) left bundle branch block (v.s.), and (4) right ventricular premature beats. Abnormal right axis deviation, much less common, results from five factors: (1) Sometimes a vertical position of the heart, (2) preponderant enlargement of the right ventricle, as in mitral stenosis, congenital pulmonary stenosis and pulmonary heart disease, (3) right bundle branch block (v.s.), (4) left ventricular premature beats (v.s.), and (5) congenital dextrocardia, in which there is frequently complete inversion of all complexes in Lead 1 and an interchange of the usual Leads 2 and 3.

LARGE Q WAVE IN LEAD 3.—When the amplitude of the Q wave in Lead 3 is greater than 25 per cent of the amplitude of the Q-R-S waves it frequently denotes arteriosclerotic heart disease, usually with the anginal syndrome, and sometimes hypertensive heart disease.

LOW VOLTAGE.—When the amplitude of the Q-R-S waves is diminished to less than five millimeters in either direction from the base line in all leads, low voltage is said to exist. This may be present in severe myocardial disease (coronary thrombosis or ventricular dilatation), absolute hypothyroidism (myxedema and cretinism), large pericardial effusions, chronic adhesive pericarditis and extensive anasarca.

AURICULOVENTRICULAR NODAL RHYTHM.—When the normal pacemaker is not functioning the auriculoventricular node may assume its function, and the auricles and ventricles will beat practically synchronously. The P wave, inverted or otherwise anomalous, falls close to the Q-R-S complex, coincides with it or immediately follows it. The pulse is usually regular and slow, 35 to 50 per minute. The condition is rare, usually transitory and is most often due to toxemia or drug poisoning.

VENTRICULAR ESCAPE.—This is similar to nodal rhythm in that the ventricles receive their stimuli from the auriculoventricular node, but the auricles continue to be activated in the normal manner by the sino-auricular node although at a rate slower than the ventricles.

ABNORMALITIES of the P WAVE.—Increased amplitude over 3 mm. is suggestive of auricular hypertrophy. A large, notched wave is indicative often of mitral stenosis.

COMBINED ARRHYTHMIAS.—Two or more arrhythmias may co-exist. The individual forms can often be isolated by a study of the electrocardiograms.

(To be continued)

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

THE WORK OF THE EXAMINING COMMITTEES ON MEDICAL ECONOMICS

On February 16, subcommittees of the Committee on Medical Economics began the task of examining various members of this Society with respect to practices which came to notice through replies to a questionnaire issued by our President on December 19, 1933. It has been a trying job, both physically and mentally to the examiners, and undoubtedly irksome to those called for examination. On the whole both have carried on with excellent spirit. As this is written (March 19, 1934) the examinations are nearing completion. There will remain many "loose ends that will need tying together," and then will come the formidable task of digesting and disposing of the material collected. This will take much time. There seems to be little doubt that the final analysis will show that a large majority of the complaints registered are the outgrowths of practice under the Workmen's Compensation Law. There is a disposition to blame the law for all of these alleged unfair practices growing out of its operation. Is that quite fair to the law? Is there anything in the law that compels the doctor to be unethical? Does it justify a doctor in ruthlessly and unblushingly being an accessory to the practice of lifting a patient out of the hands of a fellow practitioner simply because the law gives the employer the right to choose the doctor for his injured employee? These are pertinent questions for consideration when it comes to a final summing up of the matter. There is one gleam of light in this unsavory tangle which may in time result in a reasonable degree of purification regardless of the law. It lies in the fact that those who go in for compensation work are taking a pretty long chance when they resort to practices that provoke the enmity of their fellow practitioners. It may not be very good business after all to collect a fee of a few dollars and at the same time forfeit the good will and respect of a colleague. It is not good bookkeeping to disregard this item of "depreciation." Some who have not taken it into account will undoubtedly be the losers if they persist in ignoring the inestimable value of good will. Their failure to recognize it has doubtless been due to a faulty perspective of the situation and it is confidently anticipated that they will voluntarily revise their practices to conform to generally accepted principles of fair and honorable dealing as applied to the practice of medicine. These ideas apply with equal force to hospitals which have also come in for a liberal share of criticism, and it is likewise our belief that after seeing the exigencies of the situation they too will coöperate with us in our endeavors to bring about better conditions of practice for both doctor and layman. It is too soon to predict where these endeavors will lead us, but that the ultimate goal does not lie in the corporate practice of medicine, as ordinarily understood, should be apparent to every one who has an eye to the future.

Thomas A. Groover, M.D.,
Chairman, Committee on Medical Economics.

THE VENEREAL DISEASE PROBLEM

This issue of the Annals contains the preliminary report on venereal disease by the Committee on Public Health. It would appear necessary that some more or less radical changes be made in our methods of dealing with the venereal disease situation in this country and particularly in the District of Columbia, since the various plans so far employed have failed to attain their objective, namely, venereal disease control. The purely scientific medical problems involved are fairly well solved, the unsolved problems being of a medico-sociological, economic nature. Even in this field much has been accomplished since the general principles laid down by the Brussel's Conference of 1899 and 1902 gained general recognition soon after the World War, but it is needless to say that these problems are still far from solution, particularly in the United States. The problem of syphilis is, of course, the more important. The amount of money derived by the medical profession from patients suffering with this disease is enormous and is an influential factor in the venereal disease problem. Dr. J. H. Stokes says, "Few patients of moderate means are adequately treated for a secondary syphilitic infection for less than $500." Dr. Albert Keidel states that $380 is the minimum proved rate for a period of treatment of 15 months. In considering this matter it is well to keep in mind the first principle of medical ethics of the American Medical Association, Chapter I, Section I, which states: "The practice of medicine is a profession. It has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration." It is well to remember also that the cost for treating a larger proportion of the approximately half million new cases of syphilis in the United States annually is thrown upon the State and that this affects us directly or indirectly as citizens as well as the great loss we have to bear as physicians who are obliged to treat many patients for little or no remuneration. In this connection it is very apparent that the profession is bearing an unjust burden which should be born by the State. The chief object of the preliminary report was to stimulate interest in the subject with the hope that all of the members of the Medical Society of the District of Columbia will look into the matter of this national emergency and be in a better position to discuss it when the committee brings in its final report and recommendations. It is quite apparent that the whole subject could scarcely be outlined in such a brief report as this.

In the laws of other countries there are varying degrees of compulsion. It would appear that some degree of compulsion is necessary in any country, although in England there is none, and yet that country is putting venereal disease under control. In contrast to the compulsory laws of Germany, there are no laws of England (a) for examination and registration of prostitutes and brothels, (b) for notification of venereal disease, (c) for compelling persons suffering from venereal disease to apply for and remain under treatment, (d) for punishing persons for conveying venereal disease to others, (3) to exclude persons suffering from venereal disease from the following of any occupation which is otherwise legal. Laws have been most successful in some of the Scandinavian countries. In Denmark, for example, where there has been definite regulation by law since 1790, syphilis has virtually disappeared.

The Committee seeks the assistance and cooperation of the Society. For those who are not well acquainted with the situation and who have not the time for extensive study there will be found a very convenient guide in the little monthly publication by the United States Public Health Service,* which gives numerous abstracts of both foreign and domestic literature. In almost any yearly volume of the Journal of Social Hygiene of the past few years are found articles by some of the best authorities in our profession. From those members of our Society who are well acquainted with the subject, and there are many, the committee seeks advice and assistance. The committee realizes that it is only through united effort that anything can be accomplished. In formulating recommendations, the Committee must consider among other things free treatment and hospitalization, free laboratory facilities, physicians' fees, state control of drugs, etc.

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* U. S. Public Health Service Pamphlet:

For a number of years the United States Public Health Service has been publishing, for the information of physicians, health officers, and others, a monthly abstract journal known as "Venereal Disease Information." This publication contains usually one original article on a subject of general interest in connection with the veneral diseases and numerous abstracts from the current literature pertaining to these diseases. In the preparation of this abstract journal more than 350 of the leading medical journals of the world are reviewed and abstracts made of the articles on this subject.

The cost of "Venereal Disease Information" is 50 cents per annum, payable in advance to the Superintendent of Documents, Government Printing Office, Washington, D. C. It is desired to remind the reader that this nominal charge represents only a very small portion of the total expense of preparation, the journal being a contribution of the Public Health Service in its program with state and local health departments directed against the veneral diseases.

The problem, which admittedly is a complicated one, may not be as difficult and insurmountable as it would first appear to be. First, we know that the patient is sick, very sick; second, we know the etiology of the illness; third, we know from the clear cut symptoms presented what the diagnosis is; fourth, we know what the specific treatment is. Then our trouble begins. We do not know how to apply the treatment so that it will take effect and have not an efficient means of preventing the disease from being transmitted to others.

This problem is going to be solved, and it is the duty of every branch of organized medicine to assist in its solution at the earliest possible time. Otherwise, it is not fulfilling its duty to the community nor to itself in this matter. Too much emphasis cannot be stressed upon the fact that the medical profession's first duty is to the community.

If organized medicine in this country knows what is best for its own interest, to say nothing of the interest of the public, it will among other things volunteer such assistance as it can render to put in effect the policy as set forth some years ago by the Minister of Health of England, namely, "Whatever else might be done for the control of venereal disease, treatment by skilled practitioners must be so freely available that not a single infected person need go in need of it."

William H. Hough, M.D.

COMMITTEE ON PUBLIC HEALTH

Report of the Subcommittee on Venereal Diseases*

Since the World War extraordinary efforts have been made in all civilized countries for the control of venereal disease. These efforts have been made by the medical profession, various governmental agencies and social organizations. Through these efforts the public has become deeply concerned. That much has been accomplished, along both medical and educational lines, is well known as is also the fact that much remains to be done in both of these fields. Reliable reports show very clearly that much more has been accomplished in some countries, particularly some of the smaller ones, than in others. Among the most important reasons for this are that many are small countries with the lowest illiteracy rate; laws of one kind or another, which are universally accepted as being necessary, can be more readily enforced in these smaller countries, and there is much better coöperation on the part of the public. The form of government is a factor, since in these countries there is less tendency to oppose the law. Apparently, geographical position is not a factor. In a few of these smaller countries syphilis was put under control and ceased to be a national menace even before the World War. Within the past few years reports from some of the larger countries of Europe are encouraging, but in the United States it is the opinion of many authorities that syphilis is the greatest public health menace today. Such opinion is based upon a great mass of convincing evidence, including reports by the Government itself. The death rate, morbidity rate, loss of service and monetary cost, while not accurately known, are, nevertheless, known to be enormous, but it is not the purpose of the present discussion to deal further with this phase of the subject, the purpose being to refer to the efforts so far made for venereal disease control and to make some suggestions for improvement for your consideration. Likewise, it is not your committee's purpose to discuss, in detail, the various plans tried, now in use, and proposed for dealing with venereal disease. They have been published and discussed repeatedly by competent authorities in our medical and social hygiene journals and are easily available to anyone interested.

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* This report was offered as a preliminary one for the information of the Society, the chairman stating that the subcommittee was considering the matter and hoped to bring in another report with recommendations at a later date.

Your committee does not want to be understood as under-estimating the importance of the efforts made in this country. Numerous clinics and research institutions which we personally know about in some of the large cities of the East are dealing with the subject in an efficient way with results far greater than was expected only a few years ago, to say nothing of the most important and essential matter of education carried on by social hygiene and other agencies. A point upon which we wish to lay stress is that while we have some clinics, both public and private, equipped to give proper treatment, proper investigation, instruction and follow-up, they are comparatively few; and the great mass of cases of syphilis do not receive proper treatment and are not given proper instructions to prevent spread of infection. A still greater proportion are not followed up and but few are investigated as to source of infection. Under the present methods (generally speaking) used throughout this country, the great mass of cases simply cannot be given proper attention, and it should be apparent to anyone, giving the matter only the most superficial consideration, that they never can be, because it is practically impossible. The cost alone under the present system is prohibitive, the lack of proper medical knowledge of the subject by physicians being also a factor. The vast majority of the specialists are not equipped to deal with the problem adequately, and even if they were so equipped the cost to the public would be entirely too great.

Much could be set forth to support this opinion, but only a few authorities will be referred to. Dr. Albert Keidel of Johns Hopkins University states, "I believe that one of the chief reasons for the failure in the treatment of syphilis is to be found in the high cost of medical care of syphilis, and that element of cost not only prevents the proper treatment of many patients, but even their recognition as syphilitics." Schiller and Van Rhee state, "We find that one of the great drawbacks in the solution of this problem is the unfortunate attitude of the private practitioner in considering venereal disease as a group, purely as an income-producer, and not as the same type of public health problem as are scarlet fever and diphtheria." Snow quotes, "If organized medicine is to stand back of the profession in this drive for venereal disease control, it must make provision for the adequate education of physicians in the diagnosis and treatment of syphilis." He quotes further, "You know and I know that the average patient with syphilis is not treated so much for his disease as he is for what he is willing to pay to recover his health and avoid embarrassment of exposure." He gives another opinion "I believe that in the past physicians have capitalized too much the treatment of venereal disease, especially syphilis." Many other similar statements could be quoted and it should be borne in mind that these statements are from members of our own profession. It would hardly seem necessary to mention further the lack of proper medical knowledge of the subject. We may say, however, that in all of the countries where the laws have produced the best results—and the same thing is cautiously mentioned in articles appearing in the American literature—one important point is included, namely, that the patient must be treated by a competent physician. This does not include any licensed physician. He may be licensed to practice medicine, but whether or not he is competent to treat venereal disease is a matter that the government will determine. Such a law, in this country, would, at first, "raise proverbial hell," but that such a regulation should have been in effect long ago is apparent to anyone familiar with the situation. The same thing would apply to many other conditions well known to the profession and rapidly becoming realized by the laity. Some of the efforts made have been successful in certain communities, others partially so, and others have failed. In still others nothing approaching an efficiently organized effort has so far been made to deal with the venereal disease situation, and strange as it may seem, the Capital of the United States is an outstanding example of such a community.

Is it not apparent that some nation-wide, organized plan should be set up to deal with this national menace? Of course it is, but how is this to be done?

We all agree that the assistance of the government is necessary, that laws are necessary, and since we have in the United States 48 countries in one, it appears to be quite a complicated problem. Legislative plans are varied. We do not know of any two, applied to whole countries, that are exactly alike, as they must meet the varying needs of different peoples. However, experience has shown that any plan to be successful, and many have been, must be headed and directed by the State itself, the medical profession being absolutely unable, by itself, to handle the situation. The medical profession has surely had ample opportunity and it has failed utterly, so far as putting the disease under control is concerned. We have more syphilis in the United States today than ever existed before. It fluctuates from time to time, due probably to some, or all, of the following factors, and not because of anything that the medical profession has done:

1. Some unknown epidemiological factor as is observed in other infectious diseases.
2. The lowering of the dose of the arsenicals and the substitution of bismuth for the arsenicals and mercury in the treatment of the disease.
3. Increase in clandestine prostitution due to loss of employment, decrease of female wages and other conditions produced by the world-wide economic depression.
4. Sexual promiscuity and loose sexual psychology, which has come about in recent years.

It, nevertheless, should be recognized, as Dr. H. N. Cole states, that medicine has been able, in the last 25 years, to do more in the diagnosis and treatment of syphilis than had been done in all of the preceding centuries. At present, however, there is evidence to show that it is again on a slight increase in this country.

And still, we know how syphilis could be put under control in this country. As Stokes and others have said, we already have at hand the methods by which this disease could be put under control in a comparatively short time, if the methods could only be applied. The syphilologists of this country have done their work as well, or even better, than in any other country, but they cannot bring about the means of applying this knowledge throughout the land. Is that, after all, a medical problem? The means must in some way be produced. From all of the evidence at hand your committee does not see how we can escape the conviction that this part of the matter must be placed in the hands of the State, so that it can, with the assistance of the medical profession, apply the knowledge already in the hands of the profession to put this disease under control just as it has done other epidemic diseases, and just as it would have done with syphilis long ago had it been an acute infectious disease instead of a chronic one. Has any plan, short of State control, been successful? The answer is "No." To this question, "Has any State control plan been successful?" The answer is clearly, "Yes."

Naturally there are objections to such a proposal. It affects too materially the economic status of the medical profession to be approved for one reason, and it savors too much of state medicine for another. Let us discuss this briefly, although it has been dealt with elsewhere (Hough). In the voluminous discussions on state control of venereal disease, we find much argument against it, some in favor of it and others trying to locate a mid-road. There is evidence to show that before our economic depression the tendency was for the syphilitic patient to drift away from the general practitioner to the specialists or the clinic. Since the depression this tendency has increased, but it is also apparent that a smaller proportion seek treatment from the specialist. At the same time the number of clinic cases has not increased in the same proportion. It should be remembered that there has been no decrease in the incidence of syphilis during this time; if anything, an increase. More cases, therefore, are not receiving any medical attention. From the statistics available we believe that it is safe to say that in recent years the general practitioner has lost at least one-half of his venereal disease practice, and in some localities much more than that. Since this tendency began before the depression, it is probable that it will continue when the depression is over. That the general practitioner has lost a large portion of his income, formerly derived from the treatment of venereal disease, is apparent, and that he will lose still a larger portion under the present system seems certain. The failure of the medical profession to adequately meet the public requirements is not entirely its own fault, as mentioned above, but, this, together with other inadequacies in other respects, shown in the reports of the Committee on the Costs of Medical Care, has undoubtedly led to some lowering of the public's confidence in the profession. Both the majority and minority reports show very clearly that changes in medical practice are necessary. We frankly admit that we are not adequately meeting the public requirements and realize that existing conditions are not satisfactory to ourselves. We should bear in mind that the public has only its own viewpoint and that it is not in the least concerned with whether or not the medical profession obtains sufficient income or whether it has any income at all, if in its opinion there be sufficient necessity for a change, any more than it has with politicians, bankers and others.

Change in medical care should originate in the profession, for surely no group of society is in a better position to know what is best for the public's health than its physician. As the public becomes more enlightened in medical matters, it is more disposed to demand that its requirements be met in a satisfactory way, just as it has done with many other things. If the old methods are not to its satisfaction the public is more than ever before disposed to make a change. Such a situation threatens the medical profession today. The medical profession recognizes the people's rights, but it believes that it also has rights which it proposes to make every effort to maintain. Your committee believes that in the new order of things the medical profession realizes that it will be necessary to compromise in many ways. It is also believed that it will, and should, use every means at its command to prevent the adoption of general state medicine. It is too apparent that the adoption of general state medicine would lower the standard of medical care and interfere with the personal relation of physician and patient. The latter is a more important matter than is generally realized. Physicians realize it although they often do not know exactly why; they do not understand the psychologic mechanism, since many do not realize that 90 per cent of their sick patients are more or less psychoneurotic whether they be suffering with some organic disease or not. There are many other reasons why the medical profession believes that general state medicine would be detrimental to the public welfare, and these beliefs are not motivated by any selfish interest on the part of the physician.

The profession should, however, realize that there are some problems of immense importance to the public that it has been unable to satisfactorily solve, and venereal disease presents such a problem.

We have mentioned above that the assistance of the state is a necessary factor in this problem. State governments, through their department of health, have been in the equation for a long time with varying degrees of unsuccess so far as the national problem is concerned, although they have done much for local conditions. There has been much criticism, in one way or another, of the Department of Health for the way in which venereal diseases are handled. Some have been accused of being autocratic, and the question has been asked, "Is there not some mid-road upon which the Department of Health and the practising physician could meet?" Such a road has not been found; one does not exist, and it is our opinion that the government should proceed to build one as it has other national highways now essential for the public use. The physician should coöperate and assist in this work and later in its maintenance. It would appear necessary that he assist, if success is to be obtained, since there are not sufficient physicians in the public service to do it. The physician should realize, however, that he cannot do this work in a silk hat and frock coat; he must compromise and thereby save his shirt. There appears to be hope, in some quarters, that "old times" will return after the economic depression is over, although it may be in some modified form. It seems to us that anyone who cannot see that the old times have gone for good is simply blind. As stated, the general practitioner, who makes up the bulk of our profession and who is such an absolutely essential and influential part of it, has lost half of his venereal disease practice under existing conditions without general state medicine, and the outlook is fair that he will lose much of the other half. Will he insist upon trying to regain what appears to be hopelessly lost and risk still further loss of the public confidence? In view of the obviously necessary changes in medical practice, your committee believes that there is no better time than in the present emergency for the medical profession to show to the public its willingness to coöperate and assist in any changes that give promise to improve the venereal disease situation, so necessary for the improvement of the public health, even though it may be a departure from its old established customs. By so doing it would at the same time tend to maintain confidence and put the profession in a stronger position to defend and maintain its just rights, now seriously threatened by state medicine. The good results of venereal disease control, becoming more and more apparent in other countries, will surely soon become recognized by the American public. When comparisons are made with our deplorable condition—then what? Is not the public, the boss, likely to assume the driver's seat and take the reins in his own hands? If so, he may not be so well acquainted with the road and not be as experienced a driver as his old medical employee; "our apple cart may become messed up" in more ways than one, and the medical employee may easily receive the most serious injury. Your committee believes that such action as will be recommended would help materially rather than hinder our efforts to combat general state medicine.

According to the reporter at the General Assembly of the International Union against the venereal peril, which met at Cairo, Egypt, April last, many important resolutions were adopted. He believes that with education, free treatment and a sufficient number of hospitals, venereal disease can be brought under control no matter what the special plan adopted by the various nations. The assembly also adopted, among many others, a resolution favoring short talks on venereal disease in radio programs.

As to our local situation here in the District of Columbia, the clinic maintained by the Health Department is totally inadequate and a disgrace to a civilized community, due chiefly to lack of funds. Instead of the mere pittance of a few thousand dollars appropriated for this purpose, your committee feels satisfied that an appropriation of say $100,000 annually, under a proper setup, would be economical. (It should be remembered in this connection that Parran, who investigated this matter some years ago, recommended an appropriation of about $37,000.) If it could be in some way brought about that the Federal Government would see fit to put this problem in the hands of the National Institute of Health, or some other government agency, we feel that in a few years this disease would be put under control, and such action would have great weight in inducing the States to take a similar course. Although few physicians in this country would advocate state control, some have advocated certain modified state action, such as free medicine and free laboratory tests to all, regardless of ability to pay, etc. Many, no doubt, prefer to avoid offending the private physician, although some, including Dr. William F. Snow, General Director of the American Social Hygiene Association, come to the conclusion that the treatment of syphilis is a state and public health problem.

The local venereal disease problem has been investigated by means of a questionnaire sent to all hospitals in an effort to portray the facts as clearly as possible as a basis for such action or further study as the Society wishes to make. This work has been done in coöperation with the Social Hygiene Society and the Health Department.

In the majority of clinics of Washington hospitals there appears to be an increase of new cases. The number of revisits has increased proportionately. Aside from the social hygiene clinic of the Health Department, which is essentially for the treatment of infective cases, Gallinger Municipal Hospital has shown the most marked increase in number of patients treated in its out-patient syphilis department. This clinic is run especially for patients discharged from the hospital who have been found in need of antisyphilitic treatment.

Although there appears to be marked increase in the total number of cases of syphilis reported from all sources, there is a decrease of 33–1/3 per cent of cases reported by private physicians.

There has been a marked increase in attendance in both venereal disease clinics of the Health Department over a period of 14 years. The increased attendance is proportionately greater during the past 3 years, due possibly to the depression. At present the department is only required to treat cases as long as they are infective. The amount of money expended by the city for the running of this department does not appear to be in proportion to its growth.

There is a larger number of all cases being reported to the Health Department. It is believed that the reporting of venereal disease, especially gonorrhea, is still far from adequate, however. The reporting of syphilis according to the stage of the disease has been suggested. A common understanding as to what is meant by the various stages of syphilis must be agreed upon before reporting the cases according to their stage. An educational program might be adopted to bring about this result. Duplication of reports is prevented as far as possible by a check on all cases now reported to the department. So far as the reporting of gonorrhea and syphilis are concerned it is not so much the fault of the clinic as it is of the private physician. The importance of his coöperation in this matter cannot be overemphasized. The privacy of his practice need not be jeopardized.

Strides have been made in the treatment of congenital syphilis at Children's Hospital, at which there has been 100 per cent increase from 1926 to 1933. Gonorrhea in children has likewise been shown to receive more adequate treatment at this institution.

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SUBCOMMITTEE ON VENEREAL DISEASE:
William H. Hough, M.D., *Chairman*
Harry A. Fowler, M.D.
William P. Herbst, Jr., M.D.
Russell J. Fields, M.D.

Conjugal Syphilis—A Statistical Study. HENRY B. DECKER, M.D., *Camden, N. J. (From the Pennsylvania Hospital Out-patient Skin Service of Dr. F. C. Knowles.)*— . . . . In the syphilis treatment clinic of which I have charge in this hospital, examination was made of 7,896 records. Of this number, 4,770 comprised married patients. Of these, both members of the family were examined in 752 instances (376 husbands and wives). The husband alone was found to be infected in 60, the wife alone in 98, and both in 218 families. The interval between admissions of the two members of a family was interesting. It ranged from a few days to 8 years. In the instances of the longer intervals the spouse was admitted for some other condition and referred to the clinic because of a positive Wassermann test. In considering the instances where both were infected the fact must be kept in mind that infection might have been acquired from sources other than conjugal. . . . .

In only two instances did both husband and wife have neurosyphilis. It was felt that if a neurotropic strain of treponema existed a higher incidence of conjugal neurosyphilis would be present in this group. However, it must be remembered that most of these patients were negroes who develop somatic rather than neurosyphilis. In considering the type of syphilis . . . . one is led to the conclusion that individual resistance, rather than a strain of treponema, is probably the deciding factor.

In 41 per cent of this series one member escaped infection. It is felt that this is of importance because of the fear that has been generally disseminated concerning the infectivity of syphilis. The disease cannot be so extremely contagious, in the late stages, when a number approaching half of the husbands or wives in this group escaped. Also it would seem that the wife was less liable to transmit the infection since 38 more wives were syphilitic. *Abstracted from American Journal of the Medical Sciences, January, 1934.*

ANNUAL SCIENTIFIC ASSEMBLY MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

MAY 2–3, 1934

Announcement of Comprehensive Program for Physicians, Ladies, and the Public

There will be many features of the meeting this year which will be unusually attractive. The scientific program, inclusive of papers and exhibits, will be of interest and enlightenment to both the general practotioner and specialist. We can assure our many out-of-town guests and their wives entertainment and a real welcome; the Woman's Auxiliary has cooperated as it always has in making all this possible. To our own members especially we say, read what follows and be convinced.

SCIENTIFIC PROGRAM

Wednesday, May 2, 9 A.M.

THE X-RAY DIAGNOSIS OF SMALL BOWEL PATHOLOGY. Joseph F. Elward, Phar. Chem., Phar., D., M.D., Associate Professor of Roentgenology, Georgetown University School of Medicine.

SURGICAL PROCEDURES IN INTESTINAL OBSTRUCTION. James A. Cahill, Jr., M.D., F.A.C.S., Professor of Surgery, Georgetown University School of Medicine.

PERIPHERAL NEURITIS. Walter Freeman, A.B., M.D., M.S., Ph.D., D.N.B., Professor of Neurology, George Washington University School of Medicine.

BRONCHOSCOPY IN SUPPURATIVE AND MALIGNANT DISEASES OF THE LUNG. David Davis, A.B., M.D., Associate in Oto-Rhino-Laryngology, George Washington University Hospital.

EVIPAL ANESTHESIA. Charles Stanley White, M.D., F.A.C.S., Professor of Surgery, George Washington University School of Medicine.

THE PROSTATE GLAND IN MIDDLE LIFE. Alan J. Chenery, M.D., Associate in Urology, George Washington University School of Medicine.

BLAZING NEW TRAILS FOR ORGANIZED MEDICINE. Thomas A. Groover, M.D., D.Sc., Past President, American Roentgen Ray Society; President-elect, American College of Radiology.

Wednesday, May 2, 12:30 P.M.

Complimentary Luncheon, Ballroom, Mayflower Hotel

Wednesday, May 2, 2 P.M.

PSYCHIATRIC ASPECTS OF MEDICAL PATIENTS. Harry Stack Sullivan, M.D., of New York City; Associate Editor, The American Journal of Psychiatry; Director of Clinical Research, Sheppard and Enoch Pratt Hospital, Towson, Md.; Associate Professor of Psychiatry, University of Maryland School of Medicine.

THE PROBLEM OF CHILDHOOD TUBERCULOSIS. Preston A. McLendon, B.S., M.D., F.A.C.P., Assistant Professor of Pediatrics, George Washington University School of Medicine.

MID-STERNAL THORACOTOMY. Harry Hyland Kerr, M.D., C.M., F.A.C.S., Clinical Professor of Surgery, George Washington University School of Medicine.

THE PRESENT STATUS OF FEMALE STERILITY. Jacob Kotz, M.D., F.A.C.S., Clinical Professor of Obstetrics and Gynecology, George Washington University School of Medicine.

THE CLINICAL MANIFESTATIONS OF NON-DYSENTFRIC AMEBIASIS. Matthew White Perry, B.S., M.D., F.A.C.P., Professor of Clinical Medicine, Georgetown University School of Medicine.

DYSMENORRHEA. A. Frances Foye, M.D.

A NEW METHOD FOR REDUCING FRACTURES OF THE BONES OF THE LEG. (Cinematic Presentation.) Edward Larkin, M.D., Associate Professor of Orthopedics, Georgetown University School of Medicine; and Fred O. Coe, B.S., M.D., Professor of Radiology, Georgetown University School of Medicine.

Wednesday, May 2, 7:30 P.M.

Stated Meeting

Election of officers, members of Executive Committee, and applicants for membership; reports of committees, etc.

Wednesday, May 2, 8:15 P.M.

Public Meeting

Addressed by George Burgess Magrath, M.D., Professor of Legal Medicine, Harvard University School of Medicine; Medical Examiner, Suffolk County, Massachusetts.

Thursday, May 3, 9 A.M.

SURGICAL DRY CLINICS

(Presentation of Patients)

James A. Cahill, Jr., M.D., *Professor of Surgery, Georgetown University School of Medicine, presiding.*

GUN-SHOT WOUND OF THE CHEST. Daniel LeRay Borden, B.Sc., M.A., M.D., F.A.C.S., Associate Professor of Surgery, George Washington University School of Medicine.

TEMPORARY BILATERAL PARALYSIS OF THE DIAPHRAGM FOR PERSISTENT HICCOUGH. Arch L. Riddick, M.D., Assistant Professor of Surgery, George Washington University School of Medicine.

USE OF LEAD IN MELANO-EPITHELIOMA. Alec Horwitz, M.D., Associate in Surgery, George Washington University School of Medicine.

CONTRACTURES AND DEFORMITIES. Robert E. Moran, M.D., F.A.C.S., Associate Professor of Surgery, Georgetown University School of Medicine.

TRAUMATIC RUPTURE OF KIDNEY. William P. Herbst, M.D., M.S., Professor of Clinical Urology, Georgetown University School of Medicine.

BRAIN CASE. John J. Shugrue, M.D., Professor of Neurological Surgery, Georgetown University School of Medicine.

Thursday, May 3, 10:30 A.M.

MEDICAL DRY CLINICS

(Presentation of Patients)

Walter A. Bloedorn, M.D., *Professor of Medicine, George Washington University School of Medicine, presiding.*

PRACTICAL ASPECTS OF DIABETES. John Minor, M.D., Associate in Medicine, George Washington University School of Medicine.

ACUTE GLOMERULO-NEPHRITIS. Paul F. Dickens, M.D., Clinical Instructor in Medicine, George Washington University School of Medicine.

RAYNAUD'S DISEASE. Maurice Protas, M.D., Associate in Medicine, George Washington University School of Medicine; and Herman S. Hoffman, M.D., Associate in Medicine, George Washington University School of Medicine.

GONORRHEAL ENDOCARDITIS OF THE PULMONARY VALVE. Samuel Dessoff, M.D., Instructor in Clinical Medicine, Georgetown University School of Medicine.

RECURRENT THROMBOSIS OF THE PORTAL VEIN WITH SPLENECTOMY. Thomas W. Mattingly, M.D., Instructor in Clinical Medicine, Georgetown University School of Medicine.

ADHESIVE PERICARDITIS WITH PICK'S SYNDROME, IMPROVED BY PERICARDIECTOMY. John R. Cavanagh, M.D., Instructor in Clinical Medicine, Georgetown University School of Medicine.

Thursday, May 3, 1:30 P.M.

MAJOR TRIGEMINAL NEURALGIA. Francis Clark Grant, M.D., Philadelphia, Penna.; Assistant Professor of Surgery, University of Pennsylvania Graduate School of Medicine.

WEIGHT CURVE AND BENEDICT TEST DURING PREGNANCY. Huron W. Lawson, M.D., Emeritus Professor of Obstetrics, George Washington University School of Medicine.

METASTATIC TUMORS TO THE CHOROID. John W. Burke, M.D.

THE TREATMENT OF FRACTURES OF THE CARPAL SCAPHOID. Custis Lee Hall, M.D., F.A.C.S., Assistant Professor of Surgery, George Washington University School of Medicine.

PIGMENTED MOLES AND THEIR TREATMENT. Harry F. Anderson, M.D., Associate Professor of Dermatology and Syphilology, George Washington University School of Medicine.

PROGNOSIS OF HEART DISEASE. James W. Esler, M.D., Professor of Clinical Cardiology, Georgetown University School of Medicine.

EPIGASTRIC PAIN. A. Camp Stanley, M.D., Consulting Physician, Garfield Memorial Hospital.

Thursday, May 3, 7:30 P.M.

Annual Banquet, Mayflower Hotel, followed by Revue

Although the veil of censorship upon the activities of the Entertainment Committee under Dr. Russell McNitt is being kept tightly drawn, occasional clues as to the nature of the Musical Revue which will feature the Annual Banquet of the Medical Society after the Annual Scientific Assembly on May 3 have escaped. One hears such phrases as "Vocal Instructor Harmon," "opera," "General Glover," "mobilizing the army," "Rubinoff and his violin," "the Marx Brothers, Grass, Schoenfeld and Brilmyer," "the female contingent from the Women's Medical Society." Jack Mullane, local impresario, has lent his talents to the stagecraft of the occasion, and this assures a hilarious climax.

Dr. Victor R. Alfaro, in charge of the banquet, has placed the price of tickets at the reasonable fee of $2.50—or, as he puts it, "man and wife for a five dollar bill." Many members of the Society have already preëmpted tables for themselves and guests, and others have made joint arrangements with friends for tables together to insure the congeniality of the feast. The earliest table reservations are getting the best positions for viewing the show, it appears. Dr. Alfaro states that all table reservations are being handled by him, although tickets for the dinner may be purchased from any member of his committee, which includes also Drs. Stuart O. Foster, William W. Chase, Frank D. Costenbader, and Alec A. Preece. Six hundred and fourteen attended last year's banquet and over 800 are expected this year. This is the one medical dinner of the year when the doctor's neglected wife is invited to join in the festivities, and this fact accounts for the increased grace and gaiety of this annual affair. Physicians from a distance with their wives will also swell the number of those who on the night of May 3 will share conviviality, gastronomic satisfaction and thespian delights.

Elaborate plans for the entertainment of the wives of visiting physicians appear in the announcements made by Mrs. Prentiss Willson, President of the Woman's Auxiliary, and Dr. Maurice Protas, Chairman of the Subcommittee on Woman's Auxiliary. They include a luncheon in the Pan American Room of the Mayflower Hotel in connection with the Annual Meeting of the Woman's Auxiliary at 1:30 P.M., Wednesday, May 2. On the afternoon of the third at 2 P.M., there will be a tour of the gardens of the women of the Auxiliary terminating with a tea at the residence of Mrs. Willson, 2940 Albemarle Street. If the visiting ladies so elect, a sight-seeing trip about the city's show places will be substituted for the garden tour, all transportation being provided by the Auxiliary.

At the Woman's Auxiliary Annual Meeting on the second, the program will be featured by the election of officers for the coming year, the receipt of all annual reports, and the Presidential Address by the retiring president, Mrs. Willson. To this luncheon has been invited the National President-elect of Woman's Auxiliaries, Mrs. Robert W. Tomlinson of Wilmington, Delaware. Invitations to physicians' wives to accompany their husbands to the meeting have been circulated through all county medical societies in this vicinity, particularly in Maryland and Virginia. The Woman's Auxiliary to the Southern Medical Association will be represented by its President, Mrs. Southgate Leigh.

The complimentary luncheon will take place on the first day, May 2, according to the announcement just made by Dr. Arnold McNitt, at the Mayflower Hotel. Provision will be made for the accommodation of several hundred physicians. Admission to this luncheon will be assured by tickets issued to all those registering in person at the Secretary's Office in the Medical Society Building, during the morning of the first day's session. The Chairman of Registration, Dr. C. B. Conklin, announces that it will be impossible to register candidates for the luncheon by telephone or by proxy, and he has advised those who expect to attend it to register early in the day on Wednesday.

A speaker of outstanding forensic reputation appears on the announcement of Dr. Robert A. Bier, Chairman of the Public Meeting Subcommittee, in the person of Dr. George Burgess Magrath, of Boston. A graduate of Harvard University in the arts and in medicine, and known as an able pathologist attached to the staffs of Cambridge, Faulkner, Carney and Baptist Hospitals, he is better known in the field of legal medicine. He has been for some time Medical Examiner of Suffolk County and Professor of Legal Medicine of Harvard University School of Medicine. An unusual treat is thus promised to the general public, who have been invited to attend this important contact meeting on the night of Wednesday, May 2, at 8:15 P.M., in the Medical Society Building.

Through the medium of the press, posters, lantern slides, addresses at city and county medical societies, personal invitations to friends, and the use of stickers on letters and elsewhere, the news of the meeting has been so broadcast throughout a radius of 125 miles from Washington, that it is evident the halls of the Medical Society Building will be taxed to the utmost to accommodate those who will attend the scientific and social sessions, visit the diversified scientific and commercial exhibits, and renew friendly contacts with medical confreres of this region.

SOCIETIES WITH LIMITED MEMBERSHIP

Smith-Reed-Russell Society

GEORGE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

Dr. Benjamin Watson, Professor of Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons, Director of the Sloane Hospital for Women, New York City, addressed a meeting of the Smith-Reed-Russell Society on March 27, 1934. Subject: "Present Day Conceptions of Puerperal Sepsis."

The April lecture in this series to the Faculty and students will be given by Dr. Dean Lewis, Professor of Surgery, Johns Hopkins University and President of the American Medical Association.

WASHINGTON HEART ASSOCIATION

The annual meeting of the Washington Heart Association will be held in the Medical Society Building, 1718 M Street, N. W., on April 26, 1934, at 8 P.M. Dr. William D. Stroud, Professor of Cardiology of the University of Pennsylvania Graduate School of Medicine, who is also Secretary of the American Heart Association, will address the meeting. Subject: "The American Heart Association's Work in the Prevention and Relief of Heart Disease." Members of the medical profession are cordially invited to attend. A complimentary buffet supper will be served following the meeting. The Washington Heart Association's officer personnel includes, Drs. Thomas A. Claytor, president; James W. Esler, Secretary; Mrs. Wade Martin, Executive Secretary.

WASHINGTON MEDICAL AND SURGICAL SOCIETY

The following program was presented on the evening of March 26:

1. "X-ray Diagnosis of Gastric Carcinoma." Joseph F. Elward, M.D.
2. "Case Report: Abortive Measles in a Child who had been Exposed and Inoculated with Convalescent Blood." John C. Eckhardt, M.D.
3. "Case Report: Pleurisy with Effusion due to Bacillus Tularense." Tomas Cajigas, M.D.

The meeting was held at the home of Dr. E. M. Ellerson, 2134 R Street, N. W. A supper was served at the conclusion of the program. Dr. Ellerson, as host, was assisted by his charming mother.

The next meeting of the Society will be held on April 23, 1934, with Dr. J. Beaty Griffith as host. The essayist: Dr. A. C. Gray; case reports: Drs. E. M. Ellerson and Joseph F. Elward.

FAUQUIER COUNTY (VA.) MEDICAL SOCIETY MEETS MARCH 6, 1934

Plan for examinations as submitted by Civil Works Administrator and State Safety Director, Civil Works Administration of Virginia, not approved.

"The C. W. A. suggested that from 4 to 6 of the examinations could be completed in an hour. This would allow from 10 to 15 minutes for each examination. Our Society felt that an examination done in so short a length of time might prove most unfair to all parties concerned and be much worse than no examination at all. . . . . Doctors doing these examinations may be called on for information and testimony as long as any C. W. A. employees are alive; that is for the next 40 or 50 years. Some thought that it might be possible that some one had already left a treasury door or vault open and that this might invite many unwarranted claims for many years to come and that the physicians could not at this time, by a short, inefficient examination, save the government from claims amounting to untold millions in compensation. The C. W. A. in Washington referred to these examinations as 'physical appraisals,' a little more than inspection. Such a procedure could be of little or no value in protecting the Government against fraudulent claims and might be very unfair to men with just claims. It appeared that this might develop into a case of the physicians 'holding the bag,' that it might be a pretty bad bag to hold and that it would have to be held for a life time. All present felt that it might be very unjust to our fellow citizens, employees of the C. W. A., and unfair to the Government at this time to do these examinations in the manner suggested. By a unanimous vote the Society decided that it would not endorse the plan of physical examinations which had been offered by the C. W. A. It was made clear that the physicians present would gladly serve the Government or the C. W. A. employees free of charge, when such action was necessary and would work for the public good.

M. B. HIDEN, M.D.,
Secretary."

Charles C. Ammerman, Lieutenant Commander, Medical Corps, United States Navy, an associate member who died March 20, 1934, in San Diego, California, was graduated from the George Washington University School of Medicine in 1906. He became an active member of the Society on April 6, 1910, transferring to associate status on November 2, 1921. He entered the Naval Medical Service in 1913, serving at various stations. He was buried with full military honors in Arlington National Cemetery. Honorary pallbearers were Lieutenant Commanders J. R. White, W. D. Small, G. A. Alden, P. T. Dickens, W. P. Mull and R. W. Hayworth.

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III MAY, 1934 NUMBER 5

EXPERT MEDICAL TESTIMONY IN NERVOUS AND MENTAL CASES*

WARREN E. MILLER, LL.M.

Member of the District of Columbia Bar

During the past year it has been my privilege to try suits for disability insurance benefits in our courts as far north as Syracuse, N. Y., south to Mobile, Alabama, and in the West. In the course of these trials there has been ample opportunity to meet and observe on the witness stand a number of specialists in nervous and mental diseases.

In recent months insurance companies have ceased writing disability clauses in their contracts. This I attribute largely to the progress made in recent years among the members of your profession in recognizing specific disabilities and the ability of the members of your profession to interpret and translate in clear, concise, simple language the ailment from which a patient suffers when given, upon the witness stand, the objective symptoms of the disease.

The lawyer can only present the facts of a case to a jury, but the physician must know those facts and know how to present them in an understandable way in order that justice may prevail.

I know of no other two professions whose work is more closely allied than that of the physician and the lawyer. Perhaps there are no two professions in which the members of one understand less about the problems of the other than these two. While the law gives to the medical profession the right to practice (this right being prescribed by the Statute of each State, our United States Supreme Court having held some years ago that it is within the province of each State to prescribe the rules of conduct of its citizens and to say what requirements must be met before one may practice medicine upon its citizens), yet many eminent physicians look upon the law somewhat as once expressed by Charles Macklin, when he said "the law is a sort of hocus-pocus science, that smiles in yer face while it picks yer pocket."

You gentlemen here this evening who have applied yourselves to the study of a particular branch of your profession meet the requirements prescribed by law as "specialists." The law says "a specialist is one who applies himself to the study and practice of some particular branch of his profession."

A physician who holds himself out as being especially versed in some phase of medicine is required to possess special knowledge and skill, not merely such knowledge and skill as the average physician has, but such as is possessed by the average specialist. If a specialist "possessed no greater skill in the line of his specialty than the average physician," the Indiana Courts have said, "there would be no reason for his employment; possessing such additional skill, it becomes his duty to give his patient the benefit of it."

The reason for this rule is that scientific investigation and research have been extended and prosecuted so persistently and learnedly that the person affected by many forms of disease is of necessity compelled to seek the aid of a specialist in order to secure the results thereof. The local doctor in many instances himself suggests and selects the specialist whose learning and industry have given him a knowledge in the particular line which the general practitioner has neither time nor opportunity to acquire. Being employed because of his peculiar learning and skill, it follows that the specialist's duty to the patient cannot be measured by the skill of the average general practitioner.

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* Read before the Section on Nervous and Mental Diseases, January 4, 1934.

Particularly is this true of the specialty for which you gentlemen are fitted to and are practicing. In order to retain your badge of distinction as "specialists" you must keep abreast of the times, know what is going on in medicine, what new discoveries have been made, and what old opinions or conclusions have been discarded, all because the methods of treatment vary with the advance of science. The approved and proper method of treatment of certain diseases in days gone by is now regarded as sheer barbarism. It is equally true that some of the approved methods of today may seem equally obsolete a century hence, since amazing discoveries and advances have been made and probably will continue to be made by members of your profession. While it is not easy for the busy practitioner to keep himself equipped with all that is transpiring in his particular field of practice, yet he will fail to do so at his peril. He must always know the proper and approved practice. However, this involves the general question of a physician's legal duty to his patient when he is sued for malpractice, a most interesting subject but one outside of the topic now under discussion, meriting treatment in a separate and individual discussion.

An inescapable legal and moral duty rests upon the specialist to use his best efforts to see that truth prevails in his patient's legal controversies, even though the fulfillment of that duty may cause him inconvenience and be distasteful.

The advancement of the sciences and the progress of research in special fields of knowledge have made expert testimony of much importance during the present century. The basis of the admission of expert testimony is that there are certain processes of reasoning which the layman or ordinary juryman is incapable of performing. The facts in a case, while not insignificant to the juryman or lawyer, all go to paint a picture for the expert, and he interprets them to the Court and Jury just as the interpreter of a foreign language translates the contents of a foreign document.

Hence the general rule is that whenever the facts can be investigated or are such that the layman cannot draw accurate conclusions from them, but are such that the study and experience of specialists enable such specially endowed persons to draw accurate conclusions, then these conclusions and deductions can be testified to by experts.

Many physicians view with horror the thought of testifying in Court because of the ordeal of cross examination. While it is true that "any fool may ask a question but it takes a wise man to answer it," the prepared specialist should welcome cross examination. We lawyers like the opposing counsel to carry on lengthy cross examination of the specialist whose testimony we present, since far greater good is usually done for a client's cause in cross examination than in direct examination, as a greater latitude is given in cross examination. The prepared expert specialist knows what he wants to bring out while on the witness stand. Ofttimes the objections to certain direct questions by opposing counsel are sustained by the Court and on direct examination the lawyer is thereby precluded from asking direct questions of the expert witness to establish certain facts. But on cross examination almost invariably the physician is afforded an opportunity to get the desired point over to the Jury. More cases have been lost by opposing counsel cross examining the prepared expert than have been won in this manner.

Without a full and complete knowledge of his legal rights while in the court room a physician often leaves an erroneous impression upon the Jury and as a result there is a miscarriage of justice.

An expert witness is brought in the Court like any ordinary witness, by the usual process of the Court, and irrespective of whether or not he has been paid or promised compensation for giving his opinion he must obey the process to the extent of at least appearing in court when called and being sworn. Otherwise he is subject to punishment by the judge for contempt of court. However, when the expert appears in Court to give expert opinion, he does not stand upon the same footing as the ordinary witness, whose observation it is to testify solely as to matters of observation of fact. The expert's experience is his property as much as any movable or immovable object which he possesses. He is in a somewhat different situation from an attending physician who has been paid for his attendance upon the disabled person and who testifies as to his own personal observation. Public policy requires that attending physicians testify on behalf of their patients within the limits of the statute on privilege. In the District of Columbia here we have a statute which provides: "Sec. 1073. Physicians, Testimony of,—In the courts of the District of Columbia no physician or surgeon shall be permitted, without the consent of the person afflicted, or of his legal representatives, to disclose any information, confidential in its nature, which he shall have acquired in attending a patient in a professional capacity and which was necessary to enable him to act in that capacity: Provided, That this section shall not apply to evidence in criminal cases where the accused is charged with causing the death or of inflicting injuries upon a human being, and the disclosure shall be required in the interests of public justice."

After testifying as to facts on behalf of the patient, for example in an insanity case, the question may arise as to whether the expert is obligated to give an opinion regarding the sanity of the patient. While in some jurisdictions the rule is different, nevertheless the weight of authority is that the expert must testify, the reasoning of the Court being that his opinion is only a part of what he derived from his original relation of physician to his patient.

The rule of law as to whether a physician can be compelled to testify is the same in a criminal as in a civil case. In neither is he obligated to give an opinion independent of personal knowledge of the facts in the case, when he has not been the attending physician, without being paid or assured of reasonable compensation therefor.

When a physician finds himself subpoenaed, when no arrangements have been made for his compensation, he must obey the subpoena and be sworn as a witness. If then the questions put to him by counsel indicate that his opinion as an expert is being sought, and he does not wish to testify, his proper conduct is to state to the Court that he has not been employed as an expert and that he respectfully declines to give an opinion in the case as an expert, without compensation proportionate to the value of his opinion. The weight of legal authority is that he is not bound so to testify. (Wharton on evidence Sec. 380, Note 66, Sec. 456 ont.) However, should the physician be ordered by the Court to give his opinion, the wisest thing to do is to give it, but this situation should not arise.

After the physician takes the stand and has been asked the usual preliminary questions as to his education, training, and experience, it is then for the Court to determine whether he has qualified as an expert witness and whether his testimony will be received as such. While on the stand it is well for the witness to volunteer nothing unless the questions put to him give him the proper latitude therefor.

The hypothetical question is becoming more and more the vehicle for conveying truth, and as the years pass it is being used more and more by the members of the legal profession in presenting to juries the real facts. An expert witness may answer hypothetical questions which require a reply based both on the witness's own personal knowledge and upon an assumption of previously proven facts or entirely upon an assumption of previously proven facts.

Only the facts in evidence are permissible to be considered by the expert witness in giving his opinion. I have known personally of many cases in which the value of the opinion of the expert in answering a hypothetical question has been destroyed by reason of the fact that the expert finally admitted on cross examination that he considered some facts that were not included in the hypothetical question, obtained perhaps from a personal contact with the attorney or by looking at documents. The answer of the physician to a hypothetical question is valueless if he admits on the stand that he has considered facts that are not covered in the question. The principal object of the cross examination of a mental expert is to endeavor to show that he considered some question outside the facts set forth in the hypothetical questions.

I recall a case, tried a few years ago here in the District of Columbia, which was lost because the physician considered some facts which were not included in the hypothetical question.

The following are a few practical suggestions which the expert medical witness might keep in mind in determining his conduct upon the stand:

1. Use clear, simple words of as few syllables as possible, avoiding the use of technical language when circumstances permit, and transmit your ideas by expressions in such form that they will be comprehended by men of limited education and intelligence.

2. Be sure you understand the question before answering, and if there is any portion of the question that you do not understand, interrogate the attorney until you do understand what he means.

3. Be frank and open in answering all questions, but do not volunteer information unless the question permits.

4. Preserve an absolutely impartial attitude but emphasize the facts which lead you to your conclusions.

5. When required, answer "yes" or "no" and then proceed immediately to give your reasons; if the attorney insists upon interrupting your answer before you have completed your explanation, state to the Judge that you have not completed your answer and desire an opportunity to do so promptly, in order that you will not be placed in a wrong light before the Jury in answering the question. If your answer cannot be either "yes" or "no" you might answer "yes and no" and then proceed to explain, giving your reasons; or you might answer "yes with qualifications" and then proceed to qualify your answer.

6. When asked a question that you cannot answer be frank and honest and do not hesitate to state why you cannot answer the question.

7. If before leaving the stand you recall that you have omitted something which requires explanation ask permission to explain.

8. Do not stay in the court room after testifying unless requested by counsel.

DISCUSSION

Dr. H. D. Shapiro: What should the physician do in regard to clinic patients who go before the Employees' Compensation Commission and ask to have the examining physician subpoenaed in their behalf? The physician gives expert testimony, yet he receives no fee, even if the patient collects a considerable sum of money. The Compensation Committee has no funds with which to meet such demands and it seems to work a hardship on the physician. Moreover, in such cases what would happen to the physician should he refuse to obey this subpoena or refuse to answer the questions?

Mr. Miller: The Employees' Compensation Commission has authority to pay for such services, or if it does not now have the authority, legislation should be enacted to that end. The Commission has a quasi-judicial status and must, therefore, be obeyed, but it is not right for the Commission to avail itself of the expert knowledge of the physician without compensating him for it.

Dr. Joseph L. Gilbert: As I understand it, the ordinary witness testifies only to facts, while the expert witness gives opinions often based upon hypothetical questions and without having even seen the patient. Lawyers have a disconcerting way, sometimes, of interjecting a sudden question that catches the physician off his guard and may force him to give an entirely erroneous opinion. It is difficult to meet this particularly if the attorney asks the question and then answers it for the physician in the way he wishes it answered.

Mr. Miller: The difference between the ordinary and expert witness has been stated correctly. The expert witness has a right to go back and explain certain of his answers before he leaves the stand. Moreover, if he is directed to answer a question "yes" or "no," he will always be upheld by the Court if he desires to qualify his answer.

Dr. Joseph L. Gilbert: I would like to have Mr. Miller's views on the present method of commitment of insane patients. After all, the majority of these cases are in equity rather than criminal courts, and anywhere else jury trial is not required except in criminal cases. In the ordinary case, commitment is not contested. There are no judges, only a hearing and a routine action by the jury which often does not even leave the court room.

Mr. Miller: The system of jury trial is almost limited to the District of Columbia. In Baltimore the committed individual may not know of the action taken until the car drives up to take him to the hospital In continental Europe the alienist is an officer of the court having no outside practice. In England there is an assistant judge whose business it is to administer lunacy hearings. The Commissioner of the

Veterans' Administration has been acting in Veterans' cases for some time and a similar system might work well in the District of Columbia. Certainly there is room for improvement.

Dr. Benjamin Karpman: A ruling has been handed down by the Department of Justice that no federal employee may testify against the Government. Has the legality of this ruling ever been challenged and if so what was the outcome? Certainly it would seem to place a definite handicap upon the witness and probably he should seek the protection of the court in so testifying.

Mr. Miller: If that ruling still holds it does so undeservedly, since the Court must get at the truth. There are some limitations, of course, for instance, one that resulted in a ruling by the Veterans' Administration that a physician must testify according to his own written testimony and also that physicians may not testify in cases where commitment is proposed to the institution of which they are employees.

Dr. Delmar Goode: Physicians of the Veterans' Administration are not permitted to sign commitment papers for patients who are to be confined in facilities of the Veterans' Administration.

DIVISION AND LIGATION OF THE SUPERIOR AND INFERIOR THYROID ARTERIES IN THE TREATMENT OF ANGINA PECTORIS*

Report of a Case

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and

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The treatment of angina pectoris by a surgical procedure had its origin in a suggestion made by François-Franck in 1899, and its application in an operation reported by Jonnesco in 1920. Since Jonnesco's report there has been an increasing interest in the surgical treatment of this condition. The present surgical methods offer only palliation.

Jonnesco, in 1920, was the first to report doing, a cervical sympathectomy for the relief of pain in angina pectoris although previously similar operations had been performed for epilepsy and exophthalmic goiter. In his first operation, in which he removed the middle and inferior cervical and first thoracic sympathetic ganglions, Jonnesco obtained good results. Later he included the superior cervical sympathetic ganglion. Coffey and Brown, in 1923, reported the relief of anginal attacks in 5 cases by removal of the superior cervical sympathetic ganglion or section of the superior cardiac branch of the superior cervical ganglion with section of the main sympathetic trunk. Coffey later advocated complete removal of the superior cervical ganglion with section of the main sympathetic trunk below it and section of the superior cardiacnerve. The procedure is carried out on the left side of the neck if the pain radiates to that side; it is carried out on the right side of the neck if the pain radiates to the right. This operation or similar procedures have been reported by Cutler, Kerr, Pieri, Leriche and Fontaine, Hesse, Hofer, Danielopolu, and Yater and Trewhella. Following these various operations upon the sympathetic nervous system the immediate mortality rate was almost 10 per cent; definite relief from pain occurred in about 55 per cent; some relief in about 25 per cent; the others were not helped.

A method of resecting the left cervico-dorsal ganglia of the sympathetic nervous system in angina pectoris was devised by Henry in 1924. The operation was successfully performed 3 times and reported by J. C. White in 1930. In all 3 cases the left-sided pain was relieved immediately. One patient died 9 months after operation from a right-sided attack; 1 patient having syphilitic aortitis died 11 days after operation from a severe right-sided attack; and 1 having mild right-sided attacks was alive 4 months after operation.

All of the above operative procedures have been directed toward cutting the pain fibers in the sympathetic nervous system and cutting the communication between the sympathetic and the central nervous systems. The varying degrees of success which have followed these methods can be explained on the results of Heinbecker's research. In a study of the cardiac nerves he demonstrated, by the technic of Heinbecker, Bishop, and O'Leary, that "pain fibers from the human heart and first portion of the aorta are found in all sympathetic nerve trunks supplying efferent fibers to these structures." He states, "These fibers enter the central nervous system via the fifth cranial nerve, via the rami communicantes, and by the dorsal roots of the 8 cervical and upper 6 or 7 thoracic nerves." He also states, "The complete removal of the cervical sympathetic chain or the alcohol injection of nerve roots from the eighth cervical to the seventh thoracic levels will not in themselves eliminate all pain pathways."

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* Read before the Society, April 25, 1934.

A review of the researches of Heinbecker and of the results obtained from the use of the various surgical procedures of section, resection, and excision of a portion of the sympathetic nervous system makes it obvious that in order to cut all the pathways of pain it would be necessary to remove the entire cervical sympathetic chain and to perform a dorsal ramisectomy down to and including the seventh thoracic level, and that in those cases in which relief from angina pectoris has followed operation upon the sympathetic nervous system the main pathways of pain, but not all, have been severed. J. C. White made somewhat similar deductions after a review of the various reported cases of cervical sympathectomy and after making deductions which were based on a series of experiments on dogs. On the basis of the facts that no method of cervical sympathectomy was followed by uniform results, that pain in angina pectoris could be stopped by paravertebral injection of alcohol, and that his experiments on dogs proved the chief pathways of pain from the heart to be through the upper thoracic sympathetic ganglia, he concludes: "Operations on the cervical sympathetic trunk, even if they include the stellate ganglia, cannot interrupt all the pathways of cardiac pain. . . . . The upper thoracic sympathetic ganglia or their communicant rami or the posterior roots of the corresponding spinal nerves are the logical points at which to interrupt painful stimuli from the heart."

Paravertebral injection for the relief of pain in angina pectoris have been employed since Brunn and Mandl, in 1924, reported good results following the injection of procain. Swetlow and Brunn, each in 1926, reported the use of alcohol injections for the relief of pain in angina pectoris. The method has also been employed by White and White, and the results following its use have been discussed by Swetlow and J. C. White. The object of the paravertebral alcohol injection is to sclerose the white rami communicantes of the thoracic sympathetic nerves in order to block the cardiac pain pathways. The difficulty of locating the rami with the point of the needle and the danger of injecting alcohol into the pleura would seem to bar this procedure from general use, although in the hands of Swetlow and J. C. White it has proven to be a valuable method of treatment. White is of the opinion that paravertebral injection should be employed before any operative procedure is undertaken.

The beneficial effect of subtotal thyroidectomy upon a patient who had cardiac failure led Rosenblum and Levine to conjecture on what happens to a patient with heart disease following subtotal thyroidectomy. From their study of 69 "thyrocardiacs" who had subtotal thyroidectomy performed they concluded "that not only was there marked immediate improvement following operation in the various evidences of circulatory embarrassment, such as congestive heart failure, angina pectoris and disturbing irregularities of the heart, but the improvement was extremely well maintained;" and, "The occurrence of striking improvement following subtotal thyroidectomy in a patient with advanced congestive heart failure, in whom the thyroid gland was normal, suggests that this operation may be useful more generally in the treatment of various forms of cardiac disease." Blumgart, Levine and Berlin reported 3 cases of congestive heart failure and 1 of angina pectoris treated by thyroidectomy. The patient having angina had a subtotal thyroidectomy performed, but only a small portion of the thyroid was allowed to remain. Following operation he was free of attacks and was able to resume his work. Two additional cases of angina pectoris treated by complete thyroidectomy were shortly afterwards reported by Blumgart, Riseman, Davis and Berlin, and in both instances the patients showed improvement, both for approximately 4 months after operation.

In studying a group of patients 5 to 10 years after thyroidectomy had been performed on account of persistent or recurrent hyperthyroidism, we had observed that the patients who had had a subtotal thyroidectomy with ligation of both superior and both inferior thyroid arteries did not show any evidence of hyperthyroidism and that the tachycardia or auricular fibrillation had ceased. From this we were led to conclude that stopping the effects of hyperthyroidism in these cases was not entirely due to removal of the major portion of the thyroid gland, but that the division and ligation of the superior and inferior thyroid arteries cut the pathway of nerve stimuli from the sympathetic nervous system to the thyroid and consequently prevented regeneration of the tissue that was allowed to remain, thus avoiding over-activity of the remaining tissue by stimulation. The effect of this operative procedure was also shown to lower the basal metabolic rate, to lower the circulatory demands, and to lighten the work of the heart. Whether the cutting of the sympathetic nerves to the thyroid by dividing the blood vessels cut any sympathetic fibers to the heart we are not in a position to say, but we are of the opinion that the change produced in the heart was entirely due to physiological changes produced by cutting down the blood supply to the thyroid and cutting off the nerve supply to the gland. Because the results of this operation had been so striking in its effect upon the hearts of the individuals we observed, we considered using a similar method in cases of congestive heart failure and angina pectoris. Therefore, we proposed cutting off most of the blood supply and cutting the pathways of stimuli to the thyroid gland by dividing both superior and both inferior thyroid arteries at 1 operation. So far as we know this procedure has not been carried out previously for congestive heart failure or angina pectoris. We had an opportunity to perform this operation in 1 case of angina pectoris and have observed the patient for a period of 4½ months. We feel that the beneficial results are so striking that the case should be reported.

Report of Case

A white man, 53 years of age, foreman of a storage company, was first seen by us on January 21, 1929. He stated that during the previous year he had had "several attacks of acute pain in his chest." At times the pain passed into the left shoulder and down the left arm. The attacks occurred only after effort, as when he walked briskly for 2 or 3 blocks or climbed a flight of stairs rapidly. The pain subsided on rest. The patient's father died of heart disease and his mother of cerebral hemorrhage. His past history was irrelevant except for repeated attacks of acute tonsillitis over a long period of years. On physical examination, January 21, 1929, the radial pulse was 55 and the heart rate 65 beats per minute and arrhythmic with premature ventricular contractions. The blood pressure was 160 mm. systolic and 85 mm. diastolic. The heart was normal in size. A musical systolic murmur was heard at the base and to the right of the midsternum and was transmitted to the great vessels of the right side of the neck. An analysis of the urine did not reveal any pathological findings. The Wassermann and Kahn tests of the blood were negative. A roentgenogram taken January 22, 1929, showed the heart not to be enlarged, but the ascending and descending portions of the thoracic aorta were dilated. Numerous electrocardiographic studies made throughout the course of the disease have shown no deviation from normal with the exception of occasional premature ventricular beats. In the 5 years that the patient was under observation his condition was considered to be slowly but progressively getting worse. The anginal attacks gradually came to be precipitated by less effort until they sometimes were induced by slowly climbing a flight of stairs or by walking a short distance. At first the pain subsided with rest, but later on it required the administration of nitroglycerin. Eventually the patient developed anginal failure and on the morning of November 26, 1933, while resting at home, he had frequent paroxysms of crushing substernal pain which radiated down the left arm. The pain lasted from 10 to 15 minutes and subsided after the administration of nitroglycerin and the inhalation of several perles of amyl nitrite. On the following day the blood pressure was 140 mm. systolic and 110 mm. diastolic. The radial pulse was 58 and arrhythmic. The temperature was normal and continued to be so. Four days later the leukocytes numbered 7,700, of which 48 per cent were polymorphonuclear neutrophiles and 51 per cent lymphocytes. For 5 days the paroxysms continued to recur at intervals of from 2 to 6 hours. During the first 3 weeks of December attacks occurred from 4 to 6 times daily. On December 23, at the end of 4 weeks of complete rest in bed, the patient became free of anginal attacks. On December 27 he was admitted to the hospital. The basal metabolic rate on the following day was plus 5 per cent. On December 29, 1933, under a combined anesthetic of avertin and ethylene, the patient was operated upon in order to cut off most of the blood supply to the thyroid and to divide the nerves coming from the sympathetic nervous system to the thyroid. This was accomplished by actually dividing and ligating both superior and both inferior thyroid arteries. The operation did not produce any shock or ill effects upon the patient, and his convalescence was satisfactory and rapid. The patient was discharged from the hospital on January 3, 1934. On January 4, 6 days following operation, he had an attack of substernal pain. The administration of nitroglycerin and the inhalation of amyl nitrite gave him immediate relief. Four months have now elapsed since this attack and there has been no further recurrence of angina pectoris. The basal metabolic rate since operation has been minus 7 per cent on January 24, 0 per cent on February 19, and minus 13 per cent on April 5, 1934. The patient has not resumed his occupation but has expressed a desire to return to work. At present he is taking no medicine and he is not on any régime that restricts his activities, although he is naturally careful. He takes long walks daily and in his home walks up and down stairs a number of times each day.

Conclusions

1. The beneficial effect of preventing persistent and recurring hyperthyroidism by subtotal thyroidectomy and division and ligation of both superior and both inferior thyroid arteries was manifest in the striking change it produced in the hearts of the individuals we observed.

2. We were led to believe that in patients with congestive heart failure and angina pectoris, who did not have hyperthyroidism, we could lighten the load on the heart by merely dividing and ligating both superior and both inferior thyroid arteries.

3. The operation was employed in 1 case, and the result has been to relieve a patient of anginal failure and to allow him to enjoy relatively active life.

4. The operation markedly cuts down the blood supply and cuts off the nerve supply to the thyroid gland.

5. The effect of this procedure is to cut down the amount of blood entering the thyroid, to cut off all stimuli from the sympathetic nervous system, to lower the basal metabolic rate, to lessen the circulatory demands and thus to lighten the work of the heart. The result of this may prevent exciting causes of an attack of angina becoming operative.

6. In the operation we have employed no change in the eyes is produced (Horner's Syndrome); no vital organ such as the thyroid or parathyroids is removed; the basal metabolic rate is lowered but myxedema is not produced; and we do not think there will be a disturbance of calcium metabolism.

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THE CHILD AND THE OPHTHALMOLOGIST*

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In presenting this paper, I wish to point out in the opening paragraph three things: first, that in the management of ocular conditions in children, a patience and finesse is required which is by no means necessary with the adult patient; second, that ocular diseases and conditions which occur most frequently in childhood (from birth to 14 years of age) are very largely peculiar to this period of life and are infrequently seen in adult life; and third, that these same ocular affections should be observed and treated as early in childhood as is possible to do so, without exception.

In dealing with children there is emphatically the need of an active, personal interest on the part of the ophthalmologist and an equally responsive personal interest on the part of the child patient. Intimacy, interest and patience thus go hand in hand to aid the ophthalmologist in his management of the child. One is able to deal with an older child much as one would with an adult, for the patient is able to partially understand what is required of him. He is able with a fair degree of understanding to tell which lens improves his vision, and when he is more or less comfortable. His flagging interests may be supported by his knowledge of previous parental discipline or by his desire to terminate an uninteresting situation as soon as possible. But with the child below the age of 8 years, and even more so with one who has not yet attended school, interest is short-lived, development of understanding is small, and the desire to end the examination lends not to greater, but to less coöperation. In no case is this more clearly seen than in attempting a refraction, or in the thorough examination of the strabismic youngster. Force and physical restraint defeat rather than aid the end desired.

There are several small points which I have found helpful. A child cannot be rushed. Sufficient time must be taken to allow him to become acquainted with his surroundings and with his doctor. The word "doctor" and the general air of a physician's office are enough to inspire terror in the child who has had ears opened, or tonsils removed, or teeth extracted. He must have time to realize that the oculist plans nothing painful. Further, in order to maintain confidence, it is wise to let him see and handle the instruments to be used, such as the trial spectacle frames, the retinoscope and the ophthalmoscope. He is frequently quite fascinated by the "little flashlight" with which the oculist looks into his eye. After a child's confidence has been gained, his interest must be maintained as long as active coöperation is desired. In so doing, the wisest course is to make a game of every procedure. "Is the little light going to stay yellow or will it turn red or green?" "Is there one light or really two?" Keep the child telling you the number of fingers held up, and change the number frequently in order to keep his gaze fixed on your hand. "What animal or figure is that on the card?" Bring the card close and give him a little coaching in recognizing the animals and figures on the visual chart. I have been able in many cases to make reasonably accurate study of the vision of children 2 or 3 years of age, and to demonstrate conclusively to a doubting parent that the vision in one eye is quite poor, while in the other it is quite good. In my work on squint cases I often find it very necessary to offer such proof to parents before full parental coöperation can be gained.

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* Read before the Society, February 14, 1934.

I often think that children, in common with animals, almost immediately recognize a friendly spirit. Possibly it is an instinctive thing. Call it what you will, the fact remains that an unhurried, friendly approach, with every effort taken to reassure the little patient, and at the same time to draw him out by making play of this work, will most often result in a very satisfactory examination, instead of a very rough estimation.

Let it be understood that the diseases now to be discussed are not absolutely but largely confined to infancy and childhood (that is, from birth to the age of 14 years), or have their incipiency during this period. I wish to emphasize the fact that several of these conditions, namely, strabismus, progressive myopia, and probably congenital cataract, continue into adult life, but can only be properly and effectively treated during their early stages. In the following discussion of ocular affections, I shall stress the age of incidence and the prognosis, mentioning etiology and treatment only insofar as they emphasize the need of early attention.

The obviously acute and usually painful conditions such as neonatal conjunctivitis, acute contagious conjunctivitis ("pink-eye"), vernal conjunctivitis, phlyctenular kerato-conjunctivitis, and "interstitial keratitis" draw first attention. As a group they are obvious because of the pain, secretion, evident inflammation, and frequently the great dread of light. They are the least likely group to be overlooked, and usually treatment is instituted early.

Neonatal conjunctivitis (*conjunctivitis neonatorum*) is a gonorrheal infection of the eyes of the newborn from the mother's genital tract. It causes terrific corneal ulceration and at times intra-ocular infection resulting in seriously diminished vision throughout life. It should be prevented by prepartum treatment of the mother, and by immediate treatment of the infant's eyes with silver nitrate. A careful watch should be maintained and any inflammation or secretion viewed with suspicion. There is no appeal from the scarred cornea of the gonorrheal newborn.

Acute contagious conjunctivitis ("pink-eye") occurs most frequently during school ages, spreads rapidly, and causes loss of time and considerable discomfort, but the morbidity is small.

Vernal conjunctivitis occurs usually between the ages of 5 and 15 years, although it may be seen later in life. It is closely related to other allergic phenomena, such as hay fever and asthma, causes recurrent discomfort and loss of time, and is very stubbornly resistant to treatment, but the morbidity is also low.

Interstitial keratitis is due to congenital syphilis affecting the corneas, most commonly between the ages of 3 and 15 years. This is a scourge visited by negligent and ignorant parents on their innocent offsprings, a terrible scourge which causes great pain, photophobia and lacrimation, and results in such scarring of the cornea and very often in such very poor vision for the remainder of life, that the poor unfortunate becomes dependent on the community. To combat this, routine Wassermann and Kahn tests should be done on all newborn infants. At the University of Virginia Hospital some years ago this was easily done by obtaining a specimen of placental blood directly from the cord at the time of delivery. Treatment should be promptly instituted just as soon as a positive test or appearance of symptoms makes the diagnosis probable.

Phlyctenular kerato-conjunctivitis is seen most frequently in children from 1 to 14 years of age, although occasionally in adult life, and causes a recurring train of symptoms similar to those seen in interstitial keratitis. Suspected of being tuberculous in origin, definitely associated with improper diet and unhygienic surroundings, frequently coincidental with rhinitis, eczema and glandular involvement, this disease causes corneal destruction which heals with scarring and then recurs with further corneal destruction and further scarring. The pediatrician has a wonderful opportunity to aid in the treatment of these cases by instructions in diet, hygiene, elimination of foci of infection, and by the regular application of ultraviolet light.

In the second group of diseases occur a rather heterogenous lot of equally serious affections, but ones which are poorly known to the laity and which are much less obvious even when the child is seen by the medical man. I refer to retinoblastoma, buphthalmos, congenital cataracts, and a rare group of familial afflictions.

Retinoblastoma is a highly malignant tumor of the retina, usually appearing between the ages of 2 and 4 years, although at times as late as 8 years. If not recognized early by loss of vision, a yellow reflex from the pupil, and pain and inflammation of the eye involved, this tumor spreads along the optic nerve and rapidly results in death by invading the brain or metastasizing to vital organs. Early recognition and prompt enucleation with later use of X-ray or radium will alone give the little victim a fighting chance to live. Prompt treatment saves about 50 per cent of these children, while late treatment or no treatment makes death certain.

Buphthalmos is congenital glaucoma manifesting itself between birth and the age of 6 years, causing gradually developing great enlargement of the globe, with gradual permanent reduction in vision. Only prompt medication, and frequently surgical intervention, can hope to aid the sufferer. Even then the prognosis is poor.

Congenital cataracts are probably improperly classed here, but the fact remains that children born with lenses which are dense enough to prevent useful vision frequently are allowed to reach the ages of 6, 8, and 10 years before any effort at treatment is made. If the vision is very defective over a long period of time, the mechanism transmitting the visual stimulus fails to assume its duty after treatment and the vision remains permanently poor.

A group of familial diseases is of academic interest only, because, in the main, no treatments are known. These diseases are: amaurotic family idiocy, causing blindness and death by the age of about 2 years; maculo-cerebral degeneration beginning soon after the sixth year and resulting in blindness and dementia; hereditary optic atrophy, seen in the first several years of life, and frequently associated with central nervous system disorders; retinitis pigmentosa, a retinal degeneration beginning in childhood and resulting in blindness later in life. In this group of diseases the prognosis is poor both because of the fact that signs are few and symptoms are more easily overlooked, and because effective treatment even after recognition is often difficult to carry out.

In the third and last group there are 2 conditions to which proper importance has not been assigned, except perhaps by the oculist. I speak of refractive errors and strabismus. Seen more frequently than all other diseases of the eye, both are grossly misunderstood by the laity, and at times by members of the medical profession.

It is a matter of increasing interest to me that many school children are not as stupid as they seem. They simply do not see well. Can't you picture the little fellow with a high hyperopia, myopia or astigmatism attempting to read clearly from the blackboard, or from his textbooks, and trying to participate in games in which good vision is necessary? After a number of attempts, he still is so handicapped by poor vision that he loses interest, soon becomes entirely apathetic, and is classed as stupid. I have had this strikingly brought to my attention in several cases recently, and I value quite highly the appreciation of both the parents and the child when the latter, again able to see, takes a new interest in work and play, and forges ahead with his fellows. This is not a rarity of which I speak. It is of very frequent occurrence. Of especial interest among refractive errors is progressive myopia, a nearsightedness which occurs very early in life and has a very definite tendency to get worse as the child approaches his upper "teens." The unfortunate aspect of this is, that the youngster sees so poorly for outdoor games that he soon resorts to close work or play, such as reading, and quite frequently becomes an inveterate reader. This in turn causes the myopia to become more rapidly progressive. If allowed to continue, progressive myopia later causes retinal damage which no glasses can aid, and the vision is permanently poor with a tendency to get worse. Early and frequent correction in full of the myopia, reduction of amount of close work, and advice as to general rules of health are great aids in holding this condition in check. I would suggest that every child be refracted before he starts to school or earlier still if his vision is suspected of being defective.

The last, but by no means the least, of the conditions which are absolutely necessary to treat early in childhood for proper results, is strabismus or "cross eyes." Many do not realize that the vision in a constantly crossed eye becomes markedly defective (so-called amblyopia exanopsia), and the longer it is allowed to remain so, the less effective treatment will be. As a general rule, if a crossed eye with defective vision is not adequately treated by forced use by the age of 8 years, useful vision never returns. Another thing in favor of early treatment is the re-development and strengthening of visual fusion, which may take place before the age of 8 or 9 years, but not thereafter. There are several rules which I feel are wise to observe in a squint case. First, the patient should be examined just as soon as the squint is noticed. One must not wait until the child is ready to go to school. Second, the mere wearing of glasses will not cure an amblyopia exanopsia. Forced use and special exercises are necessary. Third, if anything other than cosmetic result is desired, operation should be performed early (before the age of 6 years), and a prompt attempt at fusion training instituted. Eyes can be straightened at any age, but vision and fusion cannot be re-developed usually after the eighth year. Just the other day, I had to tell a mother that her 6-year old son would never have useful vision in one eye. We had worked hard with him for 6 months, without improvement. His eye had been crossed too long.

In summary, the obvious, acute, painful, red eyes such as ophthalmia neanatorum, interstitial keratitis and phlyctenular kerato-conjunctivitis will be seen and treated, and if early and adequately, will not cause great damage. The treatment of the less obvious, less painful diseases such as retinoblastoma and buphthalmos will more usually be delayed too long. One should look for symptoms such as poor vision, peculiar appearance of the globe or pupil, mild pain and inflammation. Refractive errors and strabismus are not painful, may be less obvious, are much more frequently seen, but will be treated less promptly. This group is more productive of distress, discomfort and disappointment than all other ocular afflictions combined. In closing, I want to remind you that a child must be treated with unusual patience and understanding, that the ocular diseases seen in children are largely limited to childhood, and that in the majority of cases, unless they are treated early and effectively, irreparable damage is done. Youthful disease may absolutely preclude more mature ambitions and achievements.

PROSTATIC ABSCESS COMPLICATING DIABETES MELLITUS AND SEPTICEMIA*

Report of a Case

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Prostatic abscess is a common occurrence in gonorrheal urethritis. Although the prostate is especially susceptible to bacterial invasion, non-gonorrheal abscess is very infrequent. Some idea of the frequency of prostatic infection may be gleaned from the studies of Rothschild in 1903. He examined the prostate glands of 30 patients who died from various causes. None of the cases were urogenital, and the only one of urological interest was a case of small granular kidney. Twenty-seven, or 90 per cent, of these prostate glands showed signs of inflammatory reaction. All of the patients were between the ages of 34 and 52, the average being 41. It seems that very few reach the age of 40 without having had prostatic inflammation. The following case is of unusual interest because of the complicating diabetes, and it also emphasizes the great danger to diabetics of infections of the feet.

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* Read before the Clinical Division of Sibley Memorial Hospital, December 12, 1933.

REPORT OF CASE

A. J. E., aged 63 years, was referred to me on November 11, 1933. During the previous 2 weeks he had been under treatment by his family physician for an infected big toe. The local condition was progressing satisfactorily, but he was becoming weak and exhausted. On November 10, deep perineal pain accompanied by urinary difficulty had developed. I found a very ill patient. His chief complaint was deep perineal pain, especially on urination. There was no history of venereal infection or of previous urinary disorder. His physician reported that a urine examination 3 weeks previously was normal. He had no teeth. At this time he was voiding freely and there was no apparent retention. There was pain and tenderness along the right spermatic cord. Digital examination disclosed a marked enlargement of the right lobe of the prostate gland. This was tense, smooth and sensitive. The left lobe was normal. During examination a gush of bloody pus escaped from the urethra. Prostatic abscess was diagnosed and the patient put on hot rectal irrigations. An immediate smear showed abundance of gram-positive cocci. On November 12, he was feeling better and voiding freely. That night he had a chill and the next day right-sided epididymitis had developed. At this stage of his illness his case appeared like the general run of similar cases in my experience. On the night of November 14, he had an attack of acute retention of urine. With a small catheter I removed 30 ounces of clear urine. I was puzzled by the rapidity with which the bladder appeared to fill, and I carried some urine to my office for examination. There was an abundance of sugar present. The patient was sent to the Sibley Memorial Hospital immediately. Dr. W. J. Mallory was called into consultation. On November 15, the day of admission, the blood sugar was 377 mg. per 100 cc. of blood and the CO_2 combining power was 44 vol. per cent. Dr. Mallory ordered insulin and a dietary regimen. Daily readings showed a rapid approach of the CO_2 combining power to normal and a steady fall in the blood sugar. On November 16, the blood urea was 14 mg. per 100 cc. of blood and creatinin 1.5 mg., both normal readings. This report convinced me that chronic prostatic obstruction was not a factor. Routine blood examination showed a well defined secondary anemia and a leukocyte count of 17,500 per 100 cc. of blood. In spite of the laboratory evidence of improvement the patient was sinking rapidly, and the temperature was mounting higher and higher. A blood culture was ordered. It was agreed that he had septicemia or that there was pus under pressure. Rectal examination disclosed a large prostatic abscess, but somewhat smaller than originally. Because of the patient's general condition any major surgical interference was untenable, and the procedure of Stevens' was decided upon. A No. 20 F. sound was passed to the bladder neck and its tip easily ruptured the abscess. A gush of pus escaped from the urethra. A culture of this showed pure Staphylococcus aureus. A report on the blood culture 2 days later showed colonies of Staphylococcus aureus. Since it was observed that the patient was emptying his bladder, catheterization was discontinued. Water and nourishment had been well received the first 2 days, when a distressing nausea developed which made the problem of nutrition difficult. A 10 per cent glucose solution preceded by insulin was administered on 2 occasions. The heart was supported by Digifolin. It was apparent from the blood readings that he was dying of septicemia and not of diabetes. A blood transfusion of 300 cc. of citrated blood was administered on November 19, and repeated the next day. The heart had become rapid and he was semicomatose. The highest temperature recorded was at midnight of the nineteenth, when it was 106°F. by axilla. The patient expired at 6:30 P.M. on November 20. An autopsy was refused.

COMMENT

In our opinion the infected big toe was the portal of entry of the infecting organism. The prostatic abscess no doubt was one of many similar processes. Only an autopsy could have shown this.

A review of the literature covering the last 35 years did not reveal a similar case. Several authors have reported septicemia with prostatic abscess. Prostatic abscess as a metastatic lesion from infected teeth or in association with furunculosis has been more common but not fatal. A prostatic abscess with staphylococcus septicemia was reported by LeFur and Lamiaud with death 11 days after admission to the hospital. Diabetes was not mentioned. He had received vigorous serum and vaccine treatment. Murphy and Moxon reported 827 cases of diabetes mellitus with complications. Three of these were cases of septicemia and all died.

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The Fundamentals of Internal Medicine*

DISEASES OF THE HEART

(*Continued from April, 1934*)

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DIAGNOSIS OF HEART DISEASE AND HEART FAILURE

When the patient presents himself for study, the facts upon which the diagnosis of organic heart disease are based are:

1. Evidence of congestive heart failure.
2. Evidence of anginal failure.
3. Cardiac enlargement.
4. Distinctive cardiac murmurs.
5. Arrhythmias due usually to organic heart disease.
6. Distinctive appearance on X-ray examination.
7. Electrocardiographic evidence.

These points will be considered separately.

1. EVIDENCE OF CONGESTIVE HEART FAILURE. Dyspnea and edema are the outstanding features of congestive failure. These symptoms may be due to other conditions, however. Dyspnea on exertion occurs in chronic pulmonary disease when the vital capacity is considerably reduced, in severe grades of anemia and in hyperthyroidism. Edema occurs in nephritis, nephrosis, severe anemia, obstruction of the venae cavae. The history of the development of dyspnea and edema is important. When due to heart failure the dyspnea first appears with more strenuous exertion, slowly or rapidly becomes more severe and finally becomes orthopnea. Before the stage of orthopnea arrives edema of the ankles is noted, at first disappearing over night, later becoming permanent and ascending. General health and strength usually remain good until late in the course. Edema of the upper half of the body and the arms occurs only late and only in the most severe grades of failure. There is always other evidence of cardiac disease also, such as cardiac enlargement, distinctive murmurs, etc.

2. EVIDENCE OF ANGINAL FAILURE. A history of attacks of angina pectoris usually indicates coronary arteriosclerosis even when all other evidence is lacking. As a rule, however, there is usually some other evidence, such as significant T wave changes. The description of the anginal attacks must conform closely to those of typical cases, and other causes of chest pain must be ruled out, such as pleurisy, intercostal neuralgia, myositis or pleurodynia, root pains, herpes zoster, gall stone colic and neurocirculatory asthenia. In atypical cases the diagnosis may be very difficult.

Although there are many mild and many atypical cases of coronary thrombosis, the alert physician can make the diagnosis in the majority of cases.

3. CARDIAC ENLARGEMENT. Although enlargement of the area of cardiac dulness is not necessarily present in every case of heart disease, it is always confirmatory evidence when symptoms of congestive failure exist, and it is always due to some cause which may ultimately lead to heart failure. It is due to cardiac hypertrophy, cardiac dilatation or pericardial effusion, always provided, of course, that displacement of the heart to the left is ruled out. The main causes of cardiac hypertrophy are hypertension and aortic valvular disease. Excessive dilatation is always due to heart failure. In cases of mitral stenosis there is rarely much enlargement of the heart until failure occurs causing dilatation. Much enlargement of the cardiac area of dulness in cases of mitral stenosis without aortic valvular disease is indicative of advanced failure and imminent death.

4. DISTINCTIVE CARDIAC MURMURS. The only murmurs absolutely diagnostic of organic

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* This is the seventh and last instalment of a treatise on Diseases of the Heart prepared to orient the older graduates of medicine in the changing concepts of diseases of the heart and to review the subject for younger graduates. If there is a demand for similar treatises on other systems of the body they will be forthcoming.

heart disease are aortic and mitral diastolic murmurs. Systolic murmurs without other evidence of heart disease do not allow the diagnosis of heart disease to be made; but they are always to be looked upon with suspicion, and observation of the patient carried out at intervals without, however, alarming him. A loud systolic murmur at the aortic area accompanied by a thrill is suggestive evidence of aortic stenosis or aneurism of the first part of the aorta.

5. ARRHYTHMIAS DUE USUALLY TO ORGANIC HEART DISEASE. An arrhythmia without other evidence of heart disease is not necessarily indicative of heart disease. This is especially true of premature contractions and paroxysmal tachycardia. Persistent heart block is almost always due to an organic lesion. Permanent auricular fibrillation without other evidence of heart disease is often due to mitral stenosis or hyperthyroidism. The murmur of mitral stenosis may be difficult or impossible to hear when auricular fibrillation exists. Pulsus alternans is always indicative of serious heart disease.

6. DISTINCTIVE APPEARANCE ON X-RAY EXAMINATION. Enlargement of the heart is easily discernible by fluoroscopy, although minor grades of hypertrophy may be difficult to detect. Extensive pericardial effusion can usually be diagnosed, although sometimes the appearance is difficult to differentiate from cardiac hypertrophy and dilatation. The enlargement of the left auricle in mitral stenosis is frequently apparent. Patent ductus arteriosus and pulmonary heart disease usually give evidence fluoroscopically of the enlargement of the pulmonary artery. Distortion and fixation of the heart due to pericardial adhesions may be noted. Arrhythmias may frequently be diagnosed.

7. ELECTROCARDIOGRAPHIC EVIDENCE. Various grades of heart block when they are proved not to be of vagal or toxic origin, significant inversion of T waves, the *coronary T wave*, bundle branch block, arborization block, large Q wave in Lead 3, and low voltage are all indicative of serious heart disease. A normal electrocardiogram', however, does not rule out heart disease.

TREATMENT OF HEART DISEASE AND HEART FAILURE

Congestive Heart Failure. The treatment is essentially the same whatever the cause of failure may be. It consists mainly in rest, digitalis administration, promotion of diuresis and measures for symptomatic relief.

Rest. The amount of rest depends upon the degree of failure. When there is only dyspnea on exertion, it is usually sufficient to limit the severity and duration of exercise. Strenuous exertion of all kinds is banned, and the patient is instructed to take specified periods daily of complete rest in the reclining position. When there is persistent edema, continuous rest in bed, usually for about two weeks, is essential. The bedpan or a commode beside the bed is used for excretory functions. After all symptoms have subsided and evidence of congestion no longer exists the patient is slowly allowed out of bed, the first day 15 minutes twice in a chair, the second day 20 minutes twice in a chair, etc., 5 minutes being added to the periods each day. Only after the patient has been up for several days is he allowed to walk, and then the amount of walking is carefully directed. After the patient has been up and about a considerable part of the day a definite regimen is established for permanent use. Every few months the two weeks' rest in bed may be repeated to advantage.

Digitalis Administration. Digitalis has a remarkable effect in congestive heart failure. It depresses the rate of stimulus production of the sino-auricular node and of the auriculoventricular node and thereby slows the heart rate when the rhythm is normal. It slows the rate of conduction and increases the refractory period of the heart muscle and especially of the auriculoventricular bundle, so that in cases of auricular fibrillation the ventricular rate is slowed. These two effects are due mainly to stimulation of the vagus nerves. A third effect is upon the tone of the myocardium, which it increases through some unknown action.

Although several active principles may be isolated from digitalis which affect the heart, the whole leaf is usually used. The drug is standardized so that one may know about what to expect from a certain amount. It is best given by mouth either in the form of pills or tablets or the tincture, preferably pills. If the patient is unconscious or vomiting it is injected subcutaneously in some carefully prepared solution, such as digalen or digifolin. The pills usually contain $1\frac{1}{2}$ grains (0.1 gram) of standardized dry leaves. The tincture, a 10 per cent solution, is usually given in doses of 15 minims (1 cc.). A corresponding amount is dissolved in each ampule of the injectible preparation.

If the patient has not previously received digitalis he is digitalized, i.e., an amount of the drug is given which will cause sufficient slowing of the heart rate, especially when there is auricular fibrillation, will greatly reduce the dyspnea and will cause diuresis, but which will not seriously intoxicate the patient. Usually this amount of digitalis is given in from three to five days. A commonly employed method is to give one pill or 1 cc. of the tincture three times a day after meals. Usually from 15 to 20 grains of digitalis is sufficient to digitalize the average adult. Stout and large persons require more than thin and small ones. Children require more per unit of body weight than adults. Roughly, 0.1 gram for each 10 pounds of body weight is required. When the tincture is used it should be measured in a minim measuring glass, since 1 minim is usually the equivalent of 2 drops from the average medicine dropper.

Toxic effects of digitalis are malaise, headache, anorexia, nausea, vomiting, sometimes diarrhea and visual and cerebral disturbances, and often arrhythmia. Pulsus bigeminus and heart block are probably the commonest arrhythmias produced.

Digitalis is excreted from the body at the rate of about $1\frac{1}{2}$ grains (0.1 gram) daily. Once the patient has been digitalized he must usually be kept digitalized, except in some cases of rheumatic heart disease. Therefore, a daily dose of $1\frac{1}{2}$ grains (0.1 gram) must be given (maintenance dose). This is extremely important.

Rarely is it necessary to digitalize a patient rapidly. If this is desired, 5 pills (or 5 cc. of the tincture) may be given every 8 hours for 3 doses or some other scheme may be used. Intravenous administration is rarely necessary for emergency treatment. An amount equivalent to 5 pills may be injected at once and repeated in a few hours. For rapid action strophanthin or ouabain may be used intravenously but probably is no more effective than digitalis. It should be given very carefully and only if digitalis has not recently been used. The dose is $\frac{1}{240}$ to $\frac{1}{120}$ grain ($\frac{1}{4}$ to $\frac{1}{2}$ milligram) and may be repeated in 12 hours.

If digitalis has been given just prior to the observation of the patient, and if it is evident that he is not thoroughly digitalized, the drug should be administered cautiously and signs and symptoms of toxic action looked for.

Drugs other than digitalis and strophanthin used for their effect upon the heart are of inferior or questionable value.

Promotion of Diuresis. An indirect effect of digitalis is diuresis, which results from mobilization of fluid from the tissues due to improvement in the circulation. In many cases no other drug need be used. Restriction of fluid intake to from 800 to 1200 cc. daily is essential while the edema is decreasing, and after all signs of congestion have disappeared permanent moderate restriction of fluid intake is advisable. Moderate salt restriction is proper, but severe restriction is unnecessary.

When digitalization and fluid restriction do not result in complete elimination of edema, other diuretics may be employed. Of the purine group theobromine, theobromine sodium-salicylate (diuretin) and theophylline (or theocin) are the most useful. They should be used for 3 or 4 days at a time and then discontinued for a similar period until the edema has disappeared. The obromine and theobromine sodium-salicylate are given in doses of 10 grains (0.65 gram) three times daily in powder or tablet form, the theobromine supplemented with an equal amount of sodium bicarbonate to prevent nausea. Theophylline is given in 3 grain (0.2 gram) doses three times daily. If the edema tends to recur a small daily dose of any of these drugs may be continued.

When all measures for diuresis fail, or when diuresis is too slow, a combination of one of the acidosis-producing salts, such as calcium chloride and ammonium nitrate, with the intravenous or intramuscular administration of one of the mercurial diuretics, novasurol, salyrgan and neptal, may be effective. The salt is given in enteric coated capsules (kept in a dry, cool place) of $7\frac{1}{2}$ to 10 grains (0.5 to 0.65 gram) each in sufficient number so that a total of 120 to 150 grains (8 to 10 grams) is given daily. The novasurol (called merbaphen, a mercury-urea compound), salyrgan (called mersalyl) and neptal are dispensed in ampules containing 1.2 cc. of a 10 per cent solution. A test dose of 0.5 cc. is given to determine toxicity, which is manifested by salivation, bloody diarrhea, nausea and vomiting or hematuria. If there is no untoward reaction, injections of 1 or 2 cc. may be given every 3 to 7 days. Care must be taken not to have leaking under the skin during the injection, since severe pain and even necrosis may result. If leakage occurs salt solution should be immediately injected at the site of the leak to dilute the drug. Salyrgan and neptal are less toxic than novasurol.

Measures for Symptomatic Relief. For severe dyspnea nothing is as efficient as morphine sulphate or some similar opium derivative. Morphine should be given in doses of $\frac{1}{4}$ grain (0.016 gram) with or without atropine sulphate $\frac{1}{150}$ grain for an adult by hypodermic injection each night or oftener when there is distressing orthopnea. Next to digitalis morphine is the most important drug in the treatment of heart failure.

For nervousness, restlessness and insomnia sedatives and hypnotics should be employed. Chloral hydrate in aqueous solution in 20 to 30 grain doses is very effective for insomnia. Many other drugs are also efficacious, such as luminal, allonal, amytal, sodium amytal, dial. Small or moderate doses of bromides or phenobarbital are good for nervousness.

For headache aspirin or pyramidon may be given. For cough small doses of codeine sulphate are of value.

Defecation frequently needs to be stimulated. Mild laxatives only should be used. Half an ounce of magnesium sulphate every day or two may be given.

Diet is not important. When there is much congestion the diet should be quite light, with small feedings given more often than normally. As the patient improves the diet may be progressively added to. When the patient is unable to eat much, the intravenous injection of 100 cc. of 50 per cent solution of glucose may be given every day or two to supplement the diet.

For attacks of severe dyspnea with cyanosis placing the patient in an oxygen tent in an atmosphere of 40 per cent oxygen may be very helpful.

For extreme edema of the legs multiple incisions or punctures through the skin, or the introduction of Southey's tubes (small cannulas) inserted through the skin by means of trocars may relieve the swelling greatly. Aspiration of fluid from the thorax, peritoneal cavity or pericardial sac may at times be necessary for relief from pressure.

Venesection with removal of 250 to 500 cc. of blood may be of some value in an occasional case in which there is acute congestive failure, as in cases of cardiac asthma and of tachycardia, or in which there is chronic failure with persistent edema and very high venous pressure.

General upbuilding measures are of value in heart failure and may be introduced as the patient improves, care being taken not to overtax the heart or the patient's strength.

Psychotherapy is important, consisting mainly of a cheerful attitude in the presence of the patient.

Hypertensive Heart Disease Without Congestive Failure. It is debatable whether it is of any use to digitalize a patient with hypertension and an enlarged heart before he has definite dyspnea on exertion, but it is probably well to do so after he develops dyspnea and before he has edema. If cardiac asthma occurs digitalization should be instituted and maintained. Patients with essential hypertension should be taught to live with as little stress as possible and to develop the art of relaxing.

Arteriosclerotic Heart Disease. The several phases of this type of heart disease require different treatment.

Angina Pectoris. If there are anginal attacks these usually respond to the use of nitroglycerine in tablet form, the tablet containing $\frac{1}{200}$ or $\frac{1}{100}$ grain, dissolved under the tongue and repeated in 5 minutes if necessary. A pearl or ampoule of amyl nitrite broken and inhaled usually acts as effectively, but is less practical because of the dizziness and headache which may result. Patients with angina pectoris should avoid physical strain, emotional stress and overeating, and should rest and relax as much as possible in order to prevent attacks. Drugs of the purine group, such as theobromine and its salts and theophylline ethylene diamine (also called *euphyllin*, *metaphyllin* and *thephyldine*), are known to increase bloodflow through the coronary arteries. They should be used daily. A combination of theobromine (5 grains) and phenobarbital (*luminal*) ($\frac{1}{2}$ grain) known as *theominal* is perhaps the most useful, since it also depresses nervous irritability. One tablet is taken after each meal. If the attacks are severe and frequent and do not respond long to medical treatment, surgical treatment may be considered. Cervical and upper thoracic sympathectomy is sometimes efficacious. Less radical and probably more affective is the paravertebral injection of alcohol into the upper five thoracic dorsal nerve roots.

Cardiac Asthma. When attacks of cardiac asthma occur digitalization and its maintenance are indicated. For the attack, nitroglycerine or amyl nitrite occasionally help in mild cases, but in severe cases morphine sulphate injected hypodermically in $\frac{1}{6}$ or $\frac{1}{4}$ grain dose and repeated in 15 minutes is the best treatment. In very severe attacks venesection may also be of help.

Coronary Thrombosis. Absolute rest in bed and the liberal use of morphine are the essentials of treatment in coronary thrombosis. The patient should not be allowed to move his body without assistance. Bedrest should be maintained for weeks or months, after which the process of getting around again should be undertaken very slowly. Morphine sulphate hypodermically in $\frac{1}{4}$ grain doses is given and repeated during the period of shock and pain. After that sedatives and hypnotics may be necessary for some time. The diet should be light. In severe cases intravenous injections of 50 or 100 cc. of 50 per cent glucose solution may help to bolster up the weakened myocardium. Digitalis is not used until or unless congestive heart failure supervenes, and then digitalization should not be accomplished in a shorter time than 3 days in order to avoid rupture of the heart through the infarct.

Rheumatic Heart Disease. Treatment resolves itself into various phases: (1) preventive treatment, (2) treatment of the acute attack of rheumatic infection, (3) treatment of chronic endocarditis without heart failure, (4) treatment of congestive heart failure, and (5) treatment of auricular flutter and auricular fibrillation.

Preventive Treatment. Prevention of rheumatic infections is not easy. The "raising" of children in hygienic fashion, the avoidance of contact with sick people and the removal of infected tonsils are the main features. Residence in a tropical climate is the best method of prevention but is, of course, impractical except in rare cases.

Treatment of the Acute Attack of Rheumatic Infection. This is extremely important. The management of a case of rheumatic fever involves mainly good nursing, rest in bed and the proper use of salicylates. The latter, best in the form of the sodium salt, must be given in rather massive dosage, for the adult from 90 to 180 grains (6 to 12 grams) daily, with proportionally smaller dosage for children. Sodium bicarbonate in equal amount may be given to prevent gastric distress. If not borne by mouth the drug may be given as a retention enema in plain or starch water, all in one dose for the day. When evidence of salicylate saturation appears the daily amount may be reduced to 30 to 60 grains (2 to 4 grams) and this dose may be continued until the infection appears to have entirely subsided. Symptoms of toxic dosage are tinnitus, deafness, nausea, vomiting and urticaria. It is rarely necessary to entirely discontinue the salicylate when these symptoms are present; the dose may be halved for a few days. There is a possibility that long continuance of the use of salicylate in small daily doses (10 to 20 grains) may be of value in preventing recurrence or in ameliorating the chronic changes, but this is by no means settled. The drug does relieve the joint pains, lower the fever and the leukocytosis, but it probably has little effect upon the changes in the heart. If evidence of acute cardiac involvement exists digitalis is not given unless signs of congestive failure appear. Bedrest is enforced much longer, preferably until the pulse rate has been continuously below 90 and the temperature below 99°F. for at least one month.

Treatment of Chronic Endocarditis without Congestive Failure. There is not much to do in this connection except to teach the patient to avoid using up his reduced cardiac reserve capacity by observing moderation in regard to physical exertion and to adopt a hygienic mode of living. Above all, the patient should not be allowed to develop a cardiac neurosis by overemphasis of his limitations or by too much discussion of his murmur and of his heart disease. The tonsils should perhaps be removed routinely, and all potential foci of infection should also be eradicated if possible.

The treatment of auricular flutter and fibrillation is discussed below. The treatment of congestive heart failure has already been given.

Syphilitic Heart Disease. The best treatment is, of course, prevention. Next to that is early and adequate treatment of the syphilitic infection. Before congestive failure occurs in a case of aortitis, it is generally believed that antisyphilitic treatment should be carefully carried out. The prolonged use of mercury and potassium iodide or of bismuth prior to the use of an arsenical is thought to be wisest. One system is to use mercurial ointment rubbed into the skin or the salicylate injected into the buttocks once a week ($\frac{1}{2}$ to 1 grain, or 0.03 to 0.06 gram) until 6 grains (0.4 gram) has been given, together with 15 to 30 grains (1 to 2 grams) of saturated solution of potassium iodide three times daily for 6 to 8 weeks unless toxic symptoms appear. A month or 6 weeks later 10 weekly intravenous injections of neoarsphenamine are given, the initial dose being 0.1 to 0.2 gram, followed by progressively larger doses until 0.4 to 0.6 gram is reached. After another interval of a month or 6 weeks the whole procedure is repeated until 4 or 5 such have been given. When congestive failure appears it is probably wise to withhold antisyphilitic treatment and to treat the failure as already outlined. Nitroglycerin tablets may be used if anginal attacks occur. Patients with syphilitic heart disease should be warned against excessive exertion, excitement and dissipation.

Hyperthyroid Heart Disease. Subtotal thyroidectomy or x-ray treatment of the hyperthyroidism are the main forms of therapy and relieve the cardiac manifestations in the majority of cases. If congestive failure is present this should be carefully treated as already outlined before an operation is performed. Subtotal thyroidectomy should be preceded by a preparatory period of 10 days to 2 weeks of a general upbuilding regimen and the use of Lugol's solution (compound solution of iodine), 5 minims three times daily in a wineglassful of water. After operation the Lugol's solution may be continued for a week or two. If evidence of congestive failure persists a daily maintenance dose of digitalis should be continued.

Congenital Heart Disease. No special treatment is indicated. The patient usually learns to live within the limitations of his cardiac reserve.

Subacute Bacterial Endocarditis. No treatment is of any avail in this disease. Repeated small blood transfusions and general supportive and symptomatic treatment are usually employed.

Acute Pericarditis. Rest in bed and symptomatic therapy are usually all that may be done. If effusion is present and in such amount as to greatly embarrass cardiac action, paracentesis of the pericardial sac should be performed, otherwise not except for diagnostic purposes. If purulent pericarditis exists, surgical drainage of the pericardial sac is necessary.

Chronic Adhesive Pericarditis. Surgical treatment has been partially successful in some cases. Brauer's operation consists in the removal of several ribs and costal cartilages over the pericardium, with some relief from the pull of extensive adhesions to the anterior chest wall. The Delorme or Beck operation in addition includes the cutting of adhesions, resection of part of the thickened pericardium and if possible the freeing of adhesions about the venae cavae.

Pulmonary Heart Disease. The original pulmonary disease is treated, but rarely successfully. The congestive failure is treated as already outlined.

Neurocirculatory Asthenia. A careful explanation to the patient of his condition is essential. He should be advised to live a quiet life free from physical and mental strain and dissipation. Often ambitions must be curbed. Graduated physical training may help to improve the tolerance of the neurocirculatory system to exercise. Digitalization is unwise. If an anxiety neurosis exists a thorough examination including fluoroscopic and electrocardiographic examinations is essential to aid in reassurance that there is no organic heart disease.

The Arrhythmias. The only arrhythmias which require or respond to treatment are premature contractions, paroxysmal tachycardia, auricular fibrillation, auricular flutter and complete heart block.

Premature Contractions. Unless frequent and causing considerable palpitation these require no treatment. If tobacco, alcohol, fatigue, or constipation appear to be responsible they should be eliminated. If there is a great deal of mental anguish some sedative such as phenobarbital or bromides should be tried. Quinidine sulphate, as a 3 grain (0.2 gram) tablet 2 or 3 times a day, may reduce the number of ectopic beats. In some cases digitalization has proved effective. One of the potassium salts, such as potassium acetate in doses of 30 grains (2 grams) 3 times a day, may cause the arrhythmia to subside. No form of treatment is, however, especially efficacious.

Paroxysmal Tachycardia. When the frequency and duration of paroxysms are distressing, attempts should be made to prevent them. Daily doses of quinidine sulphate as described above may be beneficial. If this be ineffective, digitalization and maintenance of it by a daily dose may reduce or abolish the paroxysms. If there is much anxiety some mild sedative may be used. For the attack itself pressure on the right vagus, more rarely the left, in the neck for 10 seconds to a minute may abort the attack. Moderately firm pressure on one or the other eyeball with the eye closed may work. The patient should rest and preferably recline during the attack. Drug therapy is not very effectual. Digitalis, strophanthin or quinidine sulphate intravenously may be tried in severe attacks. Morphine may be necessary to give the patient rest. Reassurance is important.

Auricular Fibrillation. If the patient has congestive failure or serious heart disease without congestion digitalization with the usually consequent slowing of the ventricular rate is the best treatment. If there is no serious heart disease or history of embolism, and especially if the patient is relatively young and the fibrillation of recent origin, quinidine sulphate may be used and is effective in restoring normal rhythm in about two-thirds of the cases for a variable period of time, amounting to months or years in about half of the successful cases. During the period of 'quinidinization' the patient should be in bed under observation and preferably where electrocardiographic studies may be made. Quinidine sulphate is used in tablets or powders of 3 grains (0.2 gram) each. One tablet should be given as a test dose to determine whether idiosyncrasy to the drug exists. Toxic symptoms are tinnitus, deafness, urticaria, nausea,

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MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

MEDIEVALISM IN MODERN MEDICINE*

Prentiss Willson, M.D.
Washington

In obedience to the constitutional mandate of this Society that the President shall read an address at some meeting during his tenure of office, it is proposed tonight to discuss medievalism in modern medicine. In doing so I hope to avoid, on the one hand, that optimism which only points with pride to the truly remarkable accomplishments of medicine in the last half century, and, on the other, that pessimism which only views with alarm the recent attack on its social failures. The achievements and faults of medicine justify neither of these mental attitudes. The former result naturally from recent progress in general science, and offer no evidence of forging ahead of it, while the latter are part and parcel of our civilization. It is proverbial that a stream can never rise higher than its source. Is it not obvious, then, that any standard of medical practice must always remain sharply circumscribed by the general standards of the cultural level of which it is a part? It naturally follows that if one wishes to indulge in pessimism regarding the self-evident faults of the social applications of medicine, it should more properly be directed toward civilization in general rather than medicine in particular. As a corollary, there follows a lesson for the layman that cannot be driven home too often; let him who is fired with zeal for the reformation of society first direct his attention to civilization, and then take up medicine in due course; it is not necessarily the logical point for the initial attack.

There are two contrasting phenomena discernible in the recent history of civilization. The first is the complete change that has taken place in man's method of thought concerning his environment. The fundamental basis of this reversal has been the divorce of the human mind, in the field of science, from the authority of archaic theological and philosophical dogmas. In the dark ages the Church claimed, and was accorded, the right to absolutely dominate all thought, and what passed for science was equally subservient to the dicta of Aristotle, Plato and Socrates. Such slavish adherence to authority constitutes medievalism. Francis Bacon was the apostle of the new age that was about to dawn. In his Novum Organum he pointed out the fundamental fallacy in medieval thought, the discard of which was to mark the birth of scientific advance. He wrote: "The human understanding, when any proposition has once been laid down (either from general admission and belief, or from the pleasure it affords), forces everything else to add fresh support and confirmation: and although most cogent and abundant instances may exist to the contrary, yet either does not observe, or despises them, or it gets rid of and rejects them by some distinction, with violent and injurious prejudice, rather than sacrifice the authority of its first conclusions." Here is a volume on racial psychology, condensed into a paragraph. The marvelous material advances that so strikingly serve to differentiate the civilization of today from that of yesterday, and to signalize man's ever progressive conquest of his environment, have not only resulted from the divorce of science from outworn conviction, but have been in direct proportion to the effectiveness of the separation.

The second and contrasting phenomenon is the comparatively static state of man's thought concerning himself. Despite the obvious truism that he is as susceptible as his environment to critical study by inductive reasoning, the great bulk of humanity steadfastly refuses to be subjected to any such vivisection, and spiritually remains in abject mental slavery to medieval doctrines. As a result our modern culture presents the greatest paradox of all time; a marvelous mechanistic civilization associated with comparative stagnation at almost every spiritual level. At these levels we remain in the dark ages. This stagnation is due to medievalism in modern thought; its dangers to the race are only too clearly demonstrated by recent events. Who can question the fact that civilization has been on the brink of the abyss? Nowhere is this paradox better portrayed than by Will Durant in "The Story of Philosophy." He says: "To observe processes and to construct means is science; to criticize and coördinate ends is philosophy: and because in these days our means and instruments have multiplied beyond our interpretation and synthesis of ideals and ends, our life is full of sound and fury, signifying nothing. For a fact is nothing except in relation to desire; it is not complete except in relation to a purpose and a whole. Science without philosophy, facts without perspective and valuation, cannot save us from havoc and despair. Science gives us knowledge, but only philosophy can give us wisdom."

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* Presidential Address, delivered March 14, 1934. This address appears in two instalments, of which this is the first.

Using this picture as a background let us look at medicine. An arresting paralellism is at once discernible. As a science medicine has advanced by leaps and bounds; in this phase it receives only praise from its severest critics. As an art it lags behind, and so is subject to a continuous barrage of adverse and destructive lay criticism. The layman, who is quite as uncivilized in the art of living as the doctor could ever be in the art of practice, dimly realizing the failures in the application of medicine to social needs, of which the doctor is usually quite conscious, jumps to the conclusion that such faults are inherent in it, and so proceeds to attack it with all the verve and elan so characteristic of the zeal of the reformer engaged in the always agreeable task of minding his neighbor's business. What he entirely overlooks is the fact that his attack is, in reality, directed against himself; it is the faults and failures of his own civilization that render the successful social applications of medicine so difficult or impossible. Since it is evident that medicine is being attacked, let us, as her votaries, avoid two fatal tactical errors. Let us not underestimate the strength of our opponents, nor deny the existence of social faults in our beloved art; this would only be to bury our heads in the sand. For, right or wrong, the dead weight of public opinion is like that of a millstone, and the social application of the art of medicine will not be perfected until civilization has solved all of its similar problems. At the present rate of progress this bids fair to take some time. My main thesis, then, is that when we are hailed before the bar of public opinion to defend our art against charges of inadequacy and incompetency in meeting the requirements that society demands be fulfilled, let it be with clean hands; let us be able to point to our understanding of its problems, and to some constructive effort to effect their amelioration or solution. Along these lines lies our only defense.

It is for these reasons that it is proposed to discuss some of the social faults of medicine, which I have grouped together under the term medievalism. As we have seen, however, they are all so intimately and inextricably interwoven with the social failures of our modern culture that it has seemed necessary to introduce their consideration with some preliminary study of civilization itself. To do otherwise would be not only to lose a requisite background, a proper sense of proportion and perspective, but to overlook the most legitimate charge that our lay friends can level at us as physicians. No group of men and women, not even the priesthood, comes into a more momentous and intimate contact with the problems of humanity. To no class is there vouchsafed a better opportunity to observe the devastating effects of the inhibitions and taboos that we all inherit in the matters of ethics and morals, religion and politics, economics and sociology. And there is no educated group that is less vocal on these subjects than we are. That this is true, in the presence of the examples that confront us in every day of practice, is startling evidence that the crushing load of outworn convictions and conventions that we all inherit as our birthright, and struggle under to the grave, weigh down the physician as well as the layman. The day will come when the charge of having met these problems with lay medievalism rather than scientific modernism will be hurled at the medical profession with telling effect. Thus, for every reason of altruism and expediency, we should gird ourselves for the fray. By constructively criticizing the social faults of medicine in the truly scientific spirit, which means divorcing ourselves from all authority, no matter how sanctified by tradition, and permitting ourselves only the one great question of science—is it true?—we can assume a rôle of leadership in many of the problems of civilization.

But the rôle of the reformer, like that of the transgressor, is hard. One becomes acutely conscious of this fact when one attempts to outline the history of, or evaluate, modern civilization. The task is formidable because such an attempt must inevitably lead into conflicts with established beliefs. And here argument tends to remain at the emotional level; we defend and rationalize at all costs; we feel with the thalamus, and fail to think with the cortex. Rationalization may be defined as searching around in our minds to find reasons for continuing to believe as we already do. Or, as Trotter says in his book on "Instincts of the Herd in Peace and War:" "When, therefore, we find ourselves entertaining an opinion about the basis of which there is a quality of feeling which tells us that to inquire into it would be absurd, obviously unnecessary, unprofitable, undesirable, bad form, or wicked, we may know that that opinion is a nonrational one, and probably, therefore, founded upon inadequate evidence."

Robinson illustrates the same thought as follows: "The Baptist missionary is ready enough to see that the Buddhist is not such because his doctrines would bear careful inspection, but because he happened to be born in a Buddhist family in Tokio. But it would be treason to his faith to acknowledge that his own partiality for certain doctrines is due to the fact that his mother was a member of the First Baptist Church of Oak Ridge." Despite these difficulties I hope to be candid in the expression of opinion and deduction, and to attempt to avoid any rationalizations of my own; to do otherwise would be to negative whatever of value there may be in such a discussion. I have the utmost faith in the tolerance of my friends, and shall hope for their faith in mine.

A necessary preliminary to tracing the evolution of human culture must be a consideration of man's place in nature and in time. The profound and far-reaching effect on modern thought of the application of the doctrine of evolution to the problem of human origins will be considered later; it will be assumed here that, before an audience such as this, it is unnecessary to defend the fact of evolution or advance arguments in its support. Every scintilla of scientific evidence points to the biological fact of man's animal ancestry. He came up from the brutes and will always retain his blood kinship. This is a fact of vital importance in any attempt to understand him or evaluate his culture.

Unlike Gaul, time is geologically divided into four parts, the Primary, Secondary, Tertiary and Quaternary periods. The Primary was the time of archaic life, during which only invertebrates flourished; at its close the vertebrates were represented by only a few fishes. The Secondary was the age of reptiles; at its close the most primitive forms of birds and mammals appeared. The Tertiary was the age of mammals; at its close evolution had culminated in the creation of a being that, if not true man, had at least acquired the ability to make and use tools, accomplishments that immediately differentiated him from all other animals. The Quaternary is the age of man, during it his culture has been slowly, painfully and laboriously evolved. As to the number of years that have elapsed in these vast epochs no definite answer can be given. As geology uses newer methods for estimating the duration of terrestrial life, the tendency has been to increase rather than decrease, its estimates. At present the combined duration of the Primary and Secondary periods is variously estimated at from 30,000,000 to 400,000,000 years. The Tertiary is now allowed 4,000,000 and the Quaternary 1,000,000 years. There have recently been found near Ipswich, England, in geological strata definitely identified as of Pliocene, that is, late Tertiary age, certain very primitive stone tools associated with the charcoal of old hearths, that have led some of the most conservative anthropologists to admit proof of the existence of prehistoric man in England over 1,000,000 years ago. These are staggering figures; the thoughts they evoke no less so. For possibly half a billion years humanity has lain in the womb of time, developing from ameba to man. The fact that he began to make tools and use fire is evidence of his birth from the brutes 10,000 centuries or more before our era. In the matter of education is he now about to enter kindergarten or complete postgraduate study? It is our aim to throw some light on this question in the discussion that is to follow.

In the beginning, then, man was a beast, to be differentiated from his fellow mammals in only two particulars; the possession of a more perfectly organized brain, and an upright posture that liberated his forelimb from the humble function of locomotion. In this primitive state he must have subsisted on fruit and nuts, berries and succulent vegetation, with insects, eggs, shellfish and, occasionally, carrion to vary his otherwise vegetarian diet. He went naked in small family groups, sharply limited in size by the problem of food supply. He was as cultureless as the brutes surrounding him, and like them, unable to communicate with his kind except by inarticulate and instinctive cries, that only served to interpret emotional states. It is certainly true, as Kroeber says, that "the history and causes of the development in incipient man of the group of traits that may be called the faculties for speech and civilization remain one of the darkest areas in the field of human knowledge." Are these capacities to be looked for in qualities inherent in protoplasm, which work out their destiny in obedience to immutable law? If one accept this hypothesis, however, he may have difficulty in pointing out wherein his view differs from that expressed by Sir Thomas Browne when he wrote: "There is surely a piece of divinity in us; something that there was before the elements, and owes no homage to the sun." It is here that the theologian would interject the human soul. But is the position of theology to be differentiated from that of the naturalist, Alfred Russell Wallace, who, at this point, postulates a "spiritual influx," comparable to that which intervened when living organisms first made their appearance? As we stand in indecision before these rival hypotheses concerning the great mystery, let us remember the words of the poet: "While philosophers are disputing, hunger and love solve the world's problems." For so it has been with man.

Anthropologists divide man's material progress into the three main stages of savagery, barbarism and civilization; and each of these into lower, middle and upper periods. The picture of primitive man we have just drawn represents him in the stage of lowest savagery. All existing races had emerged from this stage before the dawn of history. During it, through the utilization of such natural objects as sticks and stones for tools and weapons, and through the perfection of language, man was preparing himself for the discoveries that were to mark his emergency into the next stage; these were the use of fire and the manufacture of stone weapons. We have already seen that the evidence points to dating these at least 1,000,000 years ago. Man remained in this stage of middle savagery for the greater part of this vast epoch, slowly perfecting his language and skill as a manufacturer, but without attaining any noteworthy new achievement. In Europe, it was not until about 8,000 B.C., with the invention of the bow and arrow, that he passed into the upper level of savagery. The next great discovery, marking, in the opinion of his descendants, emergency into the status of lower barbarism, was pottery. Heretofore, he had been without kettle or pot; now, thanks to these, as well as to his first great discoveries of fire and weapons, more and better foods were made available. He was still, however, living the life of a hunter, following the migrations of the game, or being forced to move on when his food demands tended toward its extermination in certain areas. The next epochal step, which was to release him from this thralldom and advance him to the status of middle barbarism, was the acquisition of the arts of agriculture and animal husbandry. "These," as Kroeber says, "freed man from the buffetings of nature; made possible permanent habitation, the accumulation of food and wealth, and a heavier growth of population." About this time man's attention was first directed to the metals: native copper was first beaten, then smelted, and finally alloyed with tin and cast into tolerably serviceable implements of bronze. These discoveries paved the way for the smelting of iron, an art which ushered in the status of upper barbarism. Iron, and later its tempering to produce steel, for the first time provided man with tools worthy of his cunning hands and subtle brain. This was his first great discovery that did not have to do directly with his food supply. It has been said that the way to a man's heart is through his stomach; up to this point his whole cultural progress followed the same route. The smelting of iron began in Europe about 1,000 B.C., and with it man entered the iron age in which he still finds himself.

The dispersal of culture in space, and its descent in time, were still dependent, however, on observation and word of mouth. Spacially any cultural trait spread through observation, very gradually, and concentrically, as the ripples on the surface of a pond spread from the point of impact of a stone. In transmitting and recording his culture and triumphs for posterity man was still dependent on epic and myth, tradition and folk-lore. Then came writing. This epochal discovery, which was to recast the whole trend of human progress and ultimately lend it a new impetus, took place, as had most of its predecessors, in Asia. It becomes recognizable about 4,000 or 5,000 B.C., but its first vague beginnings are lost in the mists of time. Next to speech it is man's most colossal achievement, and one that also gives the appearance of inevitability. For no matter how much one may infer a mutual dependence or influence between the various systems that developed in the Near East and around the Mediterranean, including the great advance of the phonetic alphabet, probably invented by the Phoenicians, writing has developed independently at least twice. Man entered the Americas from Asia about 10,000 years ago, in the stage of middle savagery. Here he was effectively cut off from all contacts with his parent culture and yet, in Central America, the Mayans developed an independent system. As though exhausted by the birth of writing, civilization lay recovering, like a woman in child-bed, for some 6,000 years. History had begun, but, as usually written, what does it record but the series of expeditions bent on murder, rape and arson with which man relieved the tedium of his existence? Hardly a single material advance can be noted during this lower stage of civilization until the 15th century A.D. Then came a marvelous burst of the inventive spirit. The mariner's compass, gunpowder, and paper and printing sent man off to scour the seven seas, provided him with a new and more effective weapon for wholesale murder and rapine, and enabled him to come home and write about it. These accomplishments fired his imagination to such an extent that, a few centuries later, he harnessed the power of steam, and so passed into the machine age in which he is still trying to live.

It would be interesting to speculate, if time permitted, on the nature of the next great discovery or concept that the historian of the future will employ to mark the initiation of the next phase of civilization, upon the threshold of which many think we now stand. Will it be a material advance, our conquest of the air, for instance? Or will this but serve to symbolize a spiritual change, a tolerance for and understanding of the kinship of all mankind? This would be to add new laurels to the Brow once crowned with thorns.

It has not been an impossible task to present a brief outline of man's material accomplishments during the span of his existence. The problem is entirely different, however, when we come to consider the development of his mind in relation to religion and morals, ethics and sociology. These subjects take up a large part of the literature of all time. All we can hope to do is to point out some fundamental factors that have left their imprint on human thought. And, for the author, it might as well be acknowledged at once that this is only possible on the assumption that the mind of man differs in degree only, and not in kind, from that of the lower animals; that its attributes of reason and conceptual thought are evolutionary derivatives of the perceptual. In the beginning of his career man must have been under the dominance of a group of instinctive urges, imposed upon him by his animal ancestry. These were the urges of hunger, sex, fear, curiosity and gregariousness. His present culture may be looked upon as the result of his reaction to these under the stimulus of his developing power of reason. Granting, then, that in the beginning the embryonic human mind was not to be differentiated from that of the animal, and operated under the same compulsions, and without getting involved in any discussion of animal behavior, let us consider for a moment how materially the two must differ. An animal has no conceptual thought, that is no appreciation of the abstract. It can have no concepts concerning life and death, the great twin mysteries with which the human mind is so constantly occupied. There can be no knowledge of a past antedating its existence, no concept of a future that will survive it; birth is unknown and death unrecognized. Even its sexual activities, including the tenderest care of the helpless young, are a response to blind instincts; that they result in reproduction is entirely outside its ken. There can be no thought of the morrow, no planning for the future. The forces of nature mean nothing unless they are terrifying, and fear is nebulous, inchoate, an instinctive abstraction, and not specific and concrete.

Bearing these facts in mind let us attempt to picture ourselves in the place of primitive man at the time reason was dawning. Language was beginning to give him word symbols with which to mentally visualize abstractions, and his developing association centers were furnishing an ever increasing number of concepts for each percept. Man was beginning to eat of the fruit of the tree of knowledge, and it evidently gave him a most frightful mental indigestion. He recognized death, not its inevitability, unfortunately, but its frequency. His sexual appetite was unabated, but birth remained an insoluble mystery. His instinctive fear of objects and things was transferred to a thousand vague abstractions; every wind that blew must have whispered of vast and inchoate horrors. He was daily the hero of a tale more gruesome than Edgar Allen Poe's, "The Pit and the Pendulum." To him the mighty swing and rhythm of the seasons, the rising and setting of the sun and moon, the surge of ocean tides and the occurrence of solar and lunar eclipses must have been phenomena of the utmost mystery, not untinged with a sinister significance. Hungry and naked, he gradually learned to kill in order that he might eat and be clothed, but this accomplishment afforded him scant comfort or defense against the nameless dreads that stalked him by day and haunted him by night. Against these he must find some defense that would allow accommodation and give him surcease. This he was to acquire in magic, in which religion was to have its birth. Religion was finally to become the cloak that would cover and protect him against the utter emptiness and bitter cold of the great void; it was to be the poppy juice that lulled him to sleep.

Now the modern Christian is prone to accept the word religion as synonymous with Christianity, if, indeed, he does not wish to give it a still narrower significance. In the other great modern religions, which rival his own in point of numbers of adherents and intolerance, he sees little or nothing of good, and for the ancient beliefs of Rome and Greece, Egypt and Babylon, he entertains only the contempt expressed in the word paganism. In such a mental attitude there is no perspective; little, in fact, but colossal ignorance. For countless thousands of years before the Christian era mankind was holding fast to religious beliefs that were a much more vital part of his daily life than are those it holds today. Renan said that "the religion of the ancients was the spinal marrow of the nation itself." The armies of Greece and Persia lay at Platae for 10 days, growling at each other and afraid to attack, because the oracles cannily refused to speak! Neanderthal man arrived at some form of religious belief over 50,000 years ago. How else are we to explain the painting of the bodies of the dead and surrounding them with ornaments and weapons? Is this not ritualism and a belief in immortality? Whitehead says: "Religion has emerged into human experience mixed with the crudest fancies of barbaric imagination. Gradually, slowly, steadily the vision recurs in history under nobler form and with clearer expression." But how terrible were some of these "crudest fancies." In the name of religion virgins were publicly exposed for prostitution in the market places of Babylon; little children, screaming in mortal terror, thrust into the fiery jaws of Molloch; the human heart torn, still beating, from the body of the conscious sacrifice, bound on the sinister black obsidian altar stone of ancient Mexico; Christ nailed to the cross; men and women torn to bits by the hunger-crazed beasts of the Roman arenas; little boys castrated to maintain their soprano voices; young girls, in the first flush of motherhood, burned at the stake because they had given birth to deformed babies, supposedly resembling some beast; and every Christian sect persecuted and tortured by some other to a limit only defined by the scope of human ingenuity. But let us turn with relief from breathing this miasm of human fallibility to the "nobler form and clearer expression." Can any philosophy save that of a Nietzsche, with its apotheosis of the blonde beast, decry the noble words of the sermon on the mount; cavil at the sentiment of "Suffer little children and forbid them not to come unto Me, for of such is the Kingdom of Heaven"; or, despite the mysticism of the concluding words, disparage the nobility of St. James' "Pure religion and undefiled before God and the Father is this, to visit the fatherless and widows in their affliction and keep himself unspotted from the world?" These are definitions of the religious spirit; may man never lose it. But if scientific detachment be maintained, even in looking at modern religions one is forced to differentiate between spirit and dogma. In his volume of essays of religious criticism entitled "The Light of Day," John Burroughs says: "Religion as a dogma has drenched the world with blood; as a sentiment it has refined and elevated the race. As a dogma it says: 'Believe as I do or I will kill you'; as a sentiment it says: 'Except ye become as little children'." The religious spirit was born of inchoate tendencies toward kindliness and altruism, which must have had their vague beginnings in the urge to gregariousness with which primitive man was endowed by his animal forebears, and which, under these circumstances, had survival value and were, therefore, increased and accentuated. It must continue to be nurtured at the same breast. But theology was born of the sense of awe with which man first looked out at the totally incomprehensible universe around him, and found his dawning reason inadequate to explain its most trivial mystery; to this day its character remains unchanged. As we moderns flounder in the attempt we would do well to recall some words of Burroughs, to be found in the volume just cited:

"In central Asia, near the river Oxus, there is said to be a famous rock, called the lamp rock, from a strange light that seems to issue from a cavern far up on the side of the mountain. The natives have a superstitious fear of the rock, and ascribe the light to some dragon or demon that lives in the cave. Recently a bold English traveler climbed up and investigated the phenomenon. The light was found, after all, to be only the light of common day. The cave proved to be a tunnel, and the mysterious light came through the rock from the other side, making a strong glow or nimbus at the mouth of the dark cavern. This incident, so typical of much that has taken place and is still taking place in the world, especially in the religious experience of mankind, has suggested . . . . that most of the mysterious lights with which our fears, our ignorance, or our superstitions have invested the subject of religion, when brought to the test or reason, either vanish entirely or give place to the light of common day."

It is hoped that enough has been said to show that for countless millenia before the Christian era, as well as during it, religion has been a dominating factor in determining the type of man's cultural evolution. Here it is impossible to undertake an examination of anything like all the phases of culture in which this dominance has been significant. It is necessary, however, to consider it in relation to its effect on man's ideas concerning sex, and in restraining that concerted effort to understand himself and his environment that we call science.

One of the most profound mysteries that confronted primitive man was that of birth. That he entirely failed to associate his sexual activities with reproduction is abundantly evidenced by the fact that in certain living savage tribes he still fails to do so. Among such peoples the Couvade is still practiced; the husband of a parturient woman retires to another hut and writhes in well simulated agony, hoping in this way to establish vicariously a part interest in the baby, which otherwise he thinks would only belong to the mother. When the necessity for paternal participation in reproduction became established in his mind he was still at a complete loss to understand the phenomenon, and even the truly gigantic mind of Aristotle floundered hopelessly in attempting an explanation. It should be some consolation to us to realize that primitive man, in his efforts to solve the sex question, failed as hopelessly as we do. No matter what his system, monogamy, polygamy, polyandry, promiscuity, or combinations of these, his sex life has never failed to pass under the dominance of religion, and to be hindered and repressed by a host of inhibitions and taboos that have never been lost. To show that this is no exaggeration let us cite but one instance. Some savage tribes have a taboo that a man must never speak to his mother-in-law. This may cause us to smile but it at least has some centuries of human experience in its favor. Surely the mother-in-law myth is as firmly based on sound observation as that of the cruel step-mother. When the death of a wife deprives children of a mother, can anyone suggest a solution more likely to result favorably for them than that their father should marry her sister? But let us glance at the law on this subject in that great empire whose proud boast it is that the sun never sets on her flag. Under the dominance of the views of the Anglican Church, marriage with a deceased wife's sister was illegal in England until 1907. The marriage ceremony of the established church was evidently so potent that it not only gave a man a wife, but made him an actual blood brother of all her sisters. Therefore, subsequent marriage with one of them was considered incestuous. In 1850 a bill to legalize such unions was first introduced into the British Parliament. It had to be reintroduced 19 times, and it took 57 years of strife, to get it passed through the House of Lords. It finally passed with all 18 of the ecclesiastical peers dissenting, and still powerful enough to force a compromise that remains as one of the crowning idiocies in the welter of modern sexual taboos. British law recognizes two grades of adultery, ordinary and incestuous. On the insistence of the ecclesiastical lords adultery with the wife's sister was allowed to remain legally incestuous adultery; therefore, the law has now legalized that which it elsewhere classes as incest. Of course, this is a complete *reductio ad absurdum.* But lest we be accused of directing our polemic against one Christian sect, let us examine the general attitude of Christian theology toward the sexual life of man. The Church has always contrasted the spiritual aspirations of the soul with the carnal desires of the body, and of the latter the sexual urge has been most frowned upon. Some of the early saints carried their hatred of the body to such extremes that cults arose whose adherents never bathed; as a result lice became known as pearls of God. It is easy to agree with Bertrand Russell when he says that in those days the odor of sanctity must have become more and more penetrating. St. Paul's "It is better to marry than to burn" has, for many Christian theologians, remained the quintessence of reason. And if there be those who would say that this is all rubbish, that the modern Church entertains no such views, let them recall that within a year the Associated Press quoted one of its highest authorities as indicting a book on ideal marriage which physicians generally have found to be most valuable in helping sexually maladjusted young couples, by terming it a book on bestial marriage.

The second point we must consider with respect to the dominance of religion in shaping the evolution of culture is its inhibiting effect on the progress of science. Now it is true that man is naturally conservative, yet who can doubt that this tendency has been markedly accentuated by his religious beliefs. About 300 years ago, under the stimulus of the philosophy of Bacon and a few other advanced thinkers, science began, gradually, with many a faltering glance backward, to unwind herself from the apron-strings of theology, and was relieved to find that, unlike Lot's wife, she was not turned to salt. Her departure from the fold was not peaceful; threats and imprecations, but no benedictions followed her, and she replied with biting satire and ribald gesture. The Church fought every step of the way. In 1600 she burned Giordano Bruno at the stake for contumaciously holding to the belief that the investigation of nature in the unbiased light of reason is our only guide to truth. In 1633, at the age of 70, Galileo was forced to his knees in recantation of views concerning the rotation of the earth around the sun now accepted by every school child. And so the bitter fight continued, but with the Church always on the losing side. The scientific revolution was in progress, and one field of human thought, the study of nature and natural law, had been forever divorced from servile adherence to authority. The last great battle was to occupy the closing years of the 19th century, and was to be fought concerning the nature and origin of man himself.

When Victoria ascended the throne of England, less than 100 years ago, the Biblical chronology of Bishop Ussher was universally accepted in the Occidental world. According to Dr. John Lightfoot, Vice Chancellor of Cambridge University, this held that: "Heaven and earth, center and circumference were made in the same instance (*sic*) of time, and clouds full of water, and man was created by the Trinity on the 20th of October, 4004 B.C., at 9 o'clock in the morning." Now if ever the Church might profitably have turned to the Book of Job, 12:8, where it is written: "Speak to the earth and it shall teach thee." But no small voice of prompting disturbed her calm. Yet an event was impending that was to shake the world of Christian thought to its very foundations, an event preceded by one of the strangest coincidences of history. On February 12, 1809, there were born two men who were to profoundly affect human culture. One was destined to strike the shackles from the limbs of a subject race, and thus to remove the blot of slavery from the escutcheon of civilization. In a marble shrine he lives in death in an heroic statue, surmounted by one of the noblest inscriptions in the English language: "In this temple as in the hearts of the people for whom he saved the Union the memory of Abraham Lincoln is enshrined forever." But "forever" is a long time, and, in the millenia to come, when the marble of today is the dust of tomorrow, his name may have been forgotten when that of Charles Darwin will be still remembered. For Darwin struck the shackles from the human mind. We are probably too near the event to fully appreciate the importance that historians of the future will accord the date of November 24, 1859, when the "Origin of Species" was published. But some of us can still remember the flashing lightning and rumbling thunder of the acrimonious debate that ensued. Indeed the last reverberations of the storm may still be heard in the distance. Is it premature to believe that one may now see on the horizon the first faint radiance of the rainbow; to hope that, at its foot, mankind will find, not the proverbial pot of gold, but the more priceless boon of intellectual freedom? It is, at least, an auspicious sign that at the end, when the weak heart that had troubled the great thinker for a lifetime finally ceased to beat, the Church, which had so attacked him in life, opened her arms to him in death; that Charles Darwin sleeps the long sleep in the hallowed shrine of Westminster Abbey. When, with the dawning of the 20th century, the reign of the great queen drew to a close, the Garden of Eden and the Chronology of Bishop Ussher survived only as pleasant myths, hallowed because of the deep impress they had left on the race. Man was beginning to accept his place as being in nature and not above it. But, as the great anatomist, Broca, pointed out, he, like the Roman Emperors, who, intoxicated with power, ended by denying their humanity and believing themselves to be demigods, still tends to be malcontent with a place at the head of the animal kingdom, and wants a kingdom of his own, the kingdom of man, in which to take refuge with his offended majesty. "But," adds Broca, "anatomy like that slave who followed the triumphal car, repeating the words, '*Memento te hominem esse*,' comes to agitate him in this self-admiration and remind him that reality, visible and tangible, links him with the animals." Why should man so long have refused to admit that, as a race, he was descended from the brutes, when he knew that, as an individual, he came into being the same as any one of them? Under the guidance of Darwin he at last had spoken to the earth; in cave and river-drift, stratified rocks and gravel-pits, it had indeed taught him. From what a false position would not the Church have been saved had she but listened to the sage advice given her in the 5th century by St. Augustine, when he wrote: "It very often happens that there is some question as to the earth or the sky, or the other elements of this world, respecting which one who is not a Christian has knowledge derived from most certain reasoning or observation, and it is very disgraceful and mischievous and of all things to be carefully avoided, that a Christian speaking of such matters as being according to the Christian Scriptures, should be heard by an unbeliever talking such nonsense that the unbeliever perceiving him to be as wide from the mark as east from west, can hardly restrain himself from laughing."

The battle between science and religion has been a long and bitter one, yet not without its saving touches of humor. One of the most delightful of these resulted from an early battle on evolution between Sir Richard Owen and the great Huxley. The former claimed that the hippocampus minor was a distinctive feature of the human brain, the latter that it was also present in that of the apes; as a matter of fact, it is common to all the mammalia. In "Water Babies," published about the time of this learned discussion, it was satirized by Charles Kingsley, as follows: "The professor had even got up in the British Association and declared that apes had hippopotamus majors in their brains, just as men have. Which was a shocking thing to say; for, if it were so, what would become of the faith, hope, and charity of immortal millions? You may think that there are other more important differences between you and an ape, such as being able to speak, and make machines, and know right from wrong, and say your prayers, and other little matters of that kind; but that is only a child's fancy, my dear. Nothing is to be depended upon but the great hippopotamus test. If you have a hippopotamus major in your brain, you are no ape, though you had four hands, no feet, and were more apeish than the apes of all species. Always remember that the one true, certain, final and all important difference between you and an ape is that you have a hippopotamus major in your brain and it has none." This delightful bit of satire is like a breath of fresh air in a controversy mainly characterized by bitterness and bigotry on both sides. But both contestants were ultimately forced to give ground, both had to recant views found to be no longer tenable, and, as a result, intolerance seems to be on the wane. Science is getting away from the crass materialism that characterized it when it first threw off the restrictions imposed by theology, and stands with less certainty and a deeper and more becoming humility before the stupendous panorama of natural law governing both the atom and the universe. It no longer adopts the attitude of the negro preacher who began a sermon by announcing that in it he proposed to "unscrew the inscrutable." Religion, on the other hand, seems to be realizing that, in a world of evolutionary change, even theology must progress. It is recognizing the moral called to its attention by Voltaire in the following anecdote. Two Athenians were standing in conversation on a street corner when an old man passed by. "Who is that old fellow," asked one. "That," replied the other, "is Socrates, the atheist who believes that there is only one God." Science is prone to say: "God is nature"; religion: "Nature is God." Both give evidence of an increasing awareness that their positions are not antipodally separated. It is this thought that lies back of the following lines, quoted approvingly by Millikan:

"A fire-mist and a planet,—
A crystal and a cell,—
A jellyfish and a saurian,
And caves where the cave-men dwell;
Then a sense of law and beauty,
And a face turned from the clod,—
Some call it evolution,
And others call it God."

It is in this spirit of mutual tolerance and forebearance that both must press forward to the great tasks ahead. If we are to succeed in fulfilling these, religion must realize that society is not static, that evolution operates in the mental the same as in the material sphere, that culture must advance or else stagnate and die; and science that it has never visualized an ultimate goal more reasonable or rational, more in keeping with the spiritual aspirations of mankind, than the central theme of the teaching of Jesus Christ of the Universal brotherhood of man and the fatherhood of God. History is strewn with illustrations of these truths, but they remain the hardest lessons man has to learn.

It is impossible to escape a clear appreciation of the inevitability of ultimate change in the cultural standards of our present civilization if we permit ourselves to become really oriented as to its place in time. If we do this we are immediately struck by the contrast between the duration of the vast epoch of man's existence on earth and the very recent achievement of all but the most primitive and fundamental of the bases of his modern culture. And when we attempt to glance at the future, to estimate the length of time that still remains to him in which to work out his destiny, our amazement is increased a thousand fold. In his admirable little volume entitled "The Mind in the Making," Professor James Harvey Robinson asks us to imagine that all that man has accomplished during the span of his existence had been gained within the lifetime of one generation, covering a period of 50 years. By halving the present estimate of the length of man's life span to 500,000 years, we would have a time scale in which each year in the life of our theoretical generation represents 10,000 years in the life of mankind. After 49 years of wandering around as half naked hunters, in the most abysmal depths of savagery, just one year ago, the most progressive members of this community began to settle down and practice the crude arts of lower barbarism. On this scale every one of the accomplishments through which our theoretical generation has achieved civilization has been acquired in the last year. Robinson continues: "Within the last few hours they . . . have learned to sail in the air and beneath the waters, and have forthwith applied their newest discoveries to the prosecution of a magnificient war on the scale befitting their high ideals and new resources. This is not so strange, for only a week ago they were burning and burying alive those who differed from the ruling party in regard to salvation, eviscerating in public those who had new ideas of government, and hanging old women who were accused of traffic with the devil. All of them had been no better than vagrant savages a year before. Their fuller knowledge was altogether too recent to have gone very deep, and they had many institutions and many leaders dedicated to the perpetuation of outworn notions which would otherwise have disappeared. Until recently changes had taken place so slowly and so insensibly that only a very few persons could be expected to realize that not a few of the beliefs that were accepted as eternal verities were due to the inevitable misunderstandings of a savage." We may wince at this terrible summary, but wherein is it not true? So much for our chronological relation to the past. Let us now attempt to estimate the future.

The great English astronomer, Sir James Jeans, gives us a very adequate idea of what we may expect in this direction in his interesting volume, "The Universe Around Us." He predicts that ultimately the inevitable shrinking of our sun will write finis to the story of life on earth, with the oceans turned to solid ice and the atmosphere to liquid air. But lest he terrify us with this prediction he estimates that this event is still in the far distant future, a little matter of a million million years. He continues: "This is some 500 times the past age of the earth, and over 3,000,000 times the period through which humanity has so far existed on earth. Let us try to see these times in their proper proportion by the help of yet another simple model. Take a postage stamp, and stick it on to a penny. Now climb Cleopatra's needle and lay the penny flat, postage stamp uppermost, on top of the obelisk. The height of the whole structure may be taken to represent the time that has elapsed since the earth was born. On this scale, the thickness of the penny and the postage-stamp together represents the time that man has lived on earth. The thickness of the postage-stamp represents the time that he has been civilized, the thickness of the penny representing the time he lived in an uncivilized state. Now stick another postage-stamp on top of the first to represent the next 5,000 years of civilization, and keep on sticking on postage-stamps until you have a pile as high as Mont Blanc. Even now the pile forms an inadequate representation of the length of the future which, so far as astronomy can see, probably stretches before civilized humanity." Such, then, is the relation of our own times to the future.

So far we have been attempting, with a few bold strokes, to sketch in the outlines of a most stupendous picture. We have been trying to visualize the vast antiquity of man, and, until the acceleration of the last few hundred years, the snail's pace at which his culture has evolved; to appreciate that this acceleration has largely been confined to progress along material lines; to realize that, in the fields of the social sciences, we remain in the dark ages because we are still under the dominance of archaic convictions; to agree that progress and change along all lines are inevitable; and to admit that, in considering these vital problems, what passes for reason is generally merely rationalization. If we have succeeded in these attempts, if we will permit ourselves to look at medicine, in the light of this knowledge, candidly and with an open mind, our consideration of medievalism in the art of its practice may be brief. Too many significant illustrations come trouping to mind to make detailed elaboration necessary.

(To be continued)

COMMITTEE ON MEDICAL ECONOMICS*

Government and Public Health Agencies

The Subcommittee on Government and Public Health Agencies has to report that on November 25, 1933, a questionnaire was sent out to the entire membership of the Medical Society of the District of Columbia as follows:

1. (a) Are you employed, or are you a consultant for, any governmental or public health agency in the District of Columbia?

(b) State name of organization with which you are connected.

2. If so, please give a brief outline of the operation of this agency, giving the character of the service rendered and type of patients treated.

3. Are you aware of any misuse of such agencies by patients not entitled to such services? (Please give specific instances; if possible, name and dates.)

4. Do you know of any abuse by such agencies of the functions allocated to them by law? If so, please give specific details.

From this questionnaire, 474 replies were received, representing over 50 per cent of the entire active membership of the Society.

To question No. 1, 120 members answered "Yes;" 350 answered "No." Of the 120 answering "Yes," 33 different Government or public health agencies were enumerated.

In answer to question No. 2, 105 members gave information concerning the "set-up" and activities of the agency with which they were connected.

In answer to question No. 3, 67 members indicated the knowledge of abuses of governmental health agencies.

In answer to question No. 4, 42 members gave data concerning this abuse.

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* In this issue appear 2 reports from the Subcommittee on Government and Public Health Agencies, having to do with Government and Public Health Agencies and Child Hygiene Service of the Health Department, adopted by the Society, March 28, 1934. Other reports from the Committee on Medical Economics will follow.

Many members gave specific data and information concerning the abuse of these governmental agencies, citing place, names and dates, supplemented by letters of explanation. Others mentioned certain cases without full pertinent data, while many stated that they had knowledge of these abuses, but their evidence was more or less of a hearsay character and not of a specific nature.

Your subcommittee addressed a letter of inquiry to the following Governmental and Public Health Agencies:

Federal Government

1. Veteran's Bureau.
2. Mount Alto Hospital.
3. Walter Reed General Hospital.
4. Naval Hospital.
5. Naval Dispensary.
6. Navy Yard.
7. Soldier's Home.
8. National Institute of Health.
9. Capitol; House and Senate Office Buildings.
10. Government Departments (Clinics): Agriculture, War, Navy, State, Interior, Labor, Commerce, Justice, Treasury.

District Government

1. Health Department (Proper).
2. Child Hygiene Service.
3. Contagious Disease Service.
4. Venereal Disease Service.
5. School Inspection Service.
6. Physicians to the Poor.
7. Prenatal Clinic.
8. Tuberculosis Clinic.

This letter requested that the committee be furnished with their medical activities as indicated:

> 1. Please furnish a list of the medical personnel as follows: (a) Full-time medical personnel; (b) contract personnel; (c) consulting personnel.
>
> 2. (a) Is there maintained a Clinic for the treatment of patients in this service?
>
> (b) If so, what type of patients are treated in this Clinic and what is the scope of such treatment?
>
> 3. Are patients referred from this Clinic to Government or private hospitals, or are they referred to their private physicians?
>
> 4. Are such patients charged for the services rendered, or is the Clinic maintained by governmental appropriations?
>
> 5. Please give a "set-up" of the Clinic, including medical and nursing personnel.

In due course of time a reply has been received from nearly all these agencies. These replies have been studied by your committee and, wherever possible, an attempt has been made to correlate the information so obtained with that received from the information of the members of the Society, and, in particular, those members connected with the specific governmental agency. It has been further necessary, however, in many instances, that further study of individual organizations be made, and your committee is now in the process of further investigation and study of these organizations, concerning which recommendations will be submitted from time to time.

In view of the information so far obtained, your committee recommends that:

> Whereas, Many members of the Medical Society of the District of Columbia have reported certain abuses of the medical activities of many of the United States Government and District Government health agencies; and
>
> Whereas, Many members of the Medical Society of the District of Columbia are connected with these governmental agencies, either as commissioned personnel or by contract, with full-time duties, part-time duties or in a consulting capacity; and
>
> Whereas, Many of these members have reported knowledge of certain abuses of the health activities of the above mentioned governmental agencies; therefore be it
>
> *Resolved*, That the members of the Medical Society of the District of Columbia so connected with such Government and public health agencies be requested to use their best efforts, through proper channels, to discourage the abuses of these agencies.
>
> *Resolved*, That these members be requested to report to the Committee on Medical Economics, through its Subcommittee on Government and Public Health Agencies, such abuses of the above mentioned health activities as may, from time to time, come to their attention.
>
> *Resolved*, That the Government authorities in charge of these health agencies be requested to discourage those individuals able to pay for medical services, from using the free facilities of governmental and public health agencies primarily set up for commissioned personnel, enlisted personnel, emergency cases and indigent patients.

Child Hygiene Service and Immunization Work of the Health Department of the District of Columbia

The Child Welfare Society of the District of Columbia was organized about 1915, following the example of similar organizations in New York City, Chicago, and elsewhere. In 1919, the Health Department obtained a small appropriation from Congress to help in this work and to give it official significance. In 1925, the Health Department, due to its increased appropriation for this work, was able to take over all stations maintained at that time except the one now located at Children's Hospital. The appropriation now maintains 11 stations in different sections of the city; last year the net amount was approximately $44,000. The Act of Congress creating this appropriation reads as follows:

> "For establishing and maintaining a Child Hygiene Service, including the establishment and maintenance of Child Welfare Stations for the clinical examination, advice, care, and maintenance of children under 6 years of age, payment for personal

services, rent, fuel, periodicals and supplies. . . . Provided, That the Commissioners may accept such volunteer services as they may deem expedient in connection with the establishment and maintenance of the service herein authorized; Provided, further, that this shall not be construed to authorize the expenditures or the payment of any money on account of such volunteer service."

The fault is obvious. The personnel of the organization consists of a paid director and a supervisory nurse with 1 volunteer and 16 paid physicians; these latter at the rate of $30 per month less the usual "cut." There are, in addition, 14 full-time nurses. Of these there are 3 colored physicians and 2 colored nurses. In the 11 stations noted above are held 32 clinics each week, 2 per physician. Each conference lasts not less than 1½ hours. At this rate the physician to this service is paid at the rate of $2 per hour. There are several pertinent facts relative to the work of the Service which your committee wishes to bring to the attention of the members of the Medical Society of the District of Columbia.

During the year 1932, there were 6,859 white births reported in the District of Columbia, of which number 2,111 were registered with the Child Hygiene Service, or 30 per cent; 3,325 colored births with 1,453 registered with the Child Hygiene Service, or 43 per cent. These figures represent the registrations of children under 1 year of age. Of the white population, between 1 and 5 years of age, 13 per cent were registered, while 15 per cent of the colored were under observation. These figures represent a total registration of 5,656 white children and 3,526 colored under 5 years of age. These 9,182 children made 65,674 visits fo the various stations; 36,235 visits being made by the 3,564 infants. When one realizes the number of children being passed through this service during its 15 years of existence, it is rather easy to see why the mortality rate for infants has dropped from 110 per 1,000 births in 1915, to 74 per 1,000 in 1933. We believe that this reduction in the mortality rate has been brought about by the individual prescribing of formulas by physicians.

It is very interesting to note how patients were originally obtained for these clinics. Each week the nurse was given a list of new births in her section of the city. She was supposed to see each of these newborns and urge their attendance on the clinics. No permission was granted by the patient's physician nor was permission to visit the patient requested. At the same time the Health Department sent to each newborn a pamphlet giving in general certain advice relating to newborn and infant care, in addition suggesting the attendance at the nearest clinic. No effort was made to pick the indigent patient to the exclusion of the patient able to pay the family physician. No doubt this is the beginning of the present evil; naturally the more intelligent, and hence the more prosperous patient, was obtained. Soon a reasonably large attendance was secured, and the nurse, instead of going out diligently for the indigent and more needy patient, let the intelligent individual keep the clinic filled with their more prosperous friends. However, the practice of individual invitations to the clinic is now limited to a large extent to those whose babies were delivered by charitable organizations, although the pamphlet still is being sent out by the Health Department to parents of all newborns. Here seems to be the solution of this problem. Let the Health Department confine its activities entirely to that class of patient who begins as charity.

In this way the purpose behind this work will be accomplished, namely, to lower the infant mortality rate. Your committee questions the right of the Health Department and the non-indigent patient to use the taxpayers' money to the detriment of the welfare of the indigent class. And, although the Health Department may feel that the educational feature embodied in this work is intensely important, let that be done not by individual attention to the "well-to-do," but by group methods, circulars, radio talks, etc.

This brings us to a rather important consideration of "dietetics." Section 43 of the Act to Regulate the Healing Arts eliminates this word. Your committee feels that the application of "dietetics" to "formula prescribing" and the dietary management of malnutrition is not intended. Your committee feels that this is the province of the physician because he alone can interpret the proper reaction of the infant to the formula on the one hand and the cause of malnutrition on the other. An adverse interpretation would place the ulcer, colitis, diabetic and other type of dietary patient in the hands of untrained individuals. And this point can be very well illustrated in this way—the original milk station for the distribution of clean milk to the poor lowered infant mortality in the large cities to a slight degree, but it was only after individual advice was given to mothers and physicians prescribed formulas in these clinics that the mortality rate showed an appreciable decline.

What can be done to correct the abuses of this service of which we complain? There are 2 answers to this question, each dependent on the other. In the first place the physician must go into competition with the welfare clinic. By this we mean to give as good and better advice than the clinic can give at a rate which the patient can afford to pay. The first part of this statement needs elucidation. The family physician must not only give advice when the patient comes to his office but he must persuade that mother to bring her child back. It is not unethical to say to a mother to bring the baby back in 4 or 6 weeks for a revision of diet. We are too prone to let the parents follow their own inclination in this respect. The idea of periodic examinations of well babies and children must be sold to the parent. The physician must explain the benefits of "keeping the well child well" by periodic examinations. Pathological changes take place too rapidly in the developing organism to postpone examinations until something is wrong. Prevention of abnormal states in children cannot be too forcibly impressed on the physician or the parent. The above applies particularly to that group of parents who perhaps want to keep their children well, but who neglect this phase of preventive medicine when denied free treatment. The added responsibility of the physician to this type of patient must not be shunned. Again, the physician owes to his patient a knowledge of infant care sufficient to warrant his acceptance of the welfare of the child, and unless he possesses such knowledge he must acquaint himself with these procedures.

The second answer to our question assumes the introduction of an "indigent" clause in the appropriation act to the Health Department for the maintenance of the Child Hygiene Service.

The foregoing observations apply practically verbatim to the immunization of children against diphtheria and smallpox. However, in the case of smallpox there is a legal obligation on the part of the parent to protect his child. In the case of diphtheria immunization the physician is again confronted with the necessity of educating the parent in the value of the measure before the Health Department has an opportunity to contact the patient. The physician cannot escape his responsibility in this instance. However, members of your committee and others have been told by parents of older children that they have never been advised of the value of diphtheria immunization, or when it should be done. And, since both these measures are so vitally concerned in the spread of serious communicable diseases, the Health Department would be negligent in its obligation to the community did it not encourage the wider use of these preventive measures. Nevertheless, methods are used which in the opinion of your committee are detrimental to the practice of the private physician. Both in the public schools and in the Child Hygiene Service patients are obtained by having a request card signed by the parent for diphtheria immunization and vaccination without regard to that parent's ability to pay. This practice is far more flagrant in its abuse than your committee feels is justifiable.

This much has been accomplished in abating abuses in the Child Hygiene Service and immunization activities of the Health Department.

The Subcommittee on Government and Public Health Agencies in a conference with the Health Officer has received his assurance that more emphasis will be placed on the treatment and immunization of the indigent and that the non-indigent will be referred to the private physician. This attitude on the part of the Health Officer should receive due consideration by the medical profession.

With this general information at hand we may conclude as follows:

WHEREAS, It is well recognized that Child Welfare Service and immunization inoculations are essential for the protection of child health for the general welfare of any community; and

WHEREAS, The Health Department of the District of Columbia is treating in the various Child Hygiene Clinics non-indigent patients, and soliciting the attendance of these patients at such clinics; and

WHEREAS, Many deserving indigent patients are thereby deprived of proper medical attention; and

WHEREAS, No effort has been made by the Health Department to encourage non-indigent patients to visit their private physicians for preventive inoculations; and

WHEREAS, The medical practitioner is, therefore, deprived of patients who would otherwise consult him for such medical service; and

WHEREAS, There is need of more effective collaboration between the Health Department and the physicians of the District of Columbia in these respects; and

WHEREAS, There appears to be definite need for the dissemination of information concerning the best methods in infant feeding and preventive inoculation; and

WHEREAS, The physicians of the District of Columbia are not giving sufficient attention to the welfare of the healthy child; and

WHEREAS, The present legislation governing the administration of the Child Hygiene Service is defective to the best interest of the indigent patient; therefore, be it

Resolved, That the Health Officer be requested to use his best efforts to discourage the abuse of the medical charity of the Child Hygiene Service by non-indigent patients.

Resolved, That the attending physicians to the Child Hygiene Clinics report to the Committee on Medical Economics such abuses as may from time to time come to their attention.

Resolved, That members of the Medical Society of the District of Columbia be urged to give more attention to the physical welfare of the healthy child and urge upon the parent of such children the advantages of periodic examinations, immunization, and vaccination.

Resolved, That members of the Medical Society of the District of Columbia be urged to advise such patients of the proper time for examinations, vaccination or immunization by card, printed form, or such other methods as may be applicable.

Resolved, That the Committee on Public Health be instructed to prepare a short outline of the approved method of diphtheria immunization and vaccination and that such information be mailed to each member of the Medical Society of the District of Columbia. Further, that the Committee on Public Health be instructed to collaborate with the Health Department in promoting the immunization of pre-school children by the private physician.

Resolved, That a postgraduate clinic be established under the auspices of the Medical Society of the District of Columbia for the purpose of informing the physician of the latest methods in infant feeding and preventive immunization.

Resolved, That the Legislative Committee of the Society be instructed to urge the inclusion of an "indigent clause" in future Congressional appropriations for the Child Hygiene Service of the Health Department.

DISEASES OF THE HEART

(*Continued from page 138*)

vomiting, diarrhea, tachycardia over 140 beats per minute (ventricular paroxysmal tachycardia), and intraventricular block (as shown by electrocardiograms). One system of 'quinidinization' is to give 6 grains (0.4 gram) every 4 hours for 5 doses daily for a week or 10 days unless toxic symptoms, normal rhythm or persistent auricular flutter appear. If normal rhythm does not return the use of the drug is stopped and then readministered after a few weeks, preceded by digitalization. The procedure may be tried a third time, and if ineffectual should then be abandoned. If the treatment is successful the drug may be discontinued or a small daily ration of 3 grains (0.2 gram) 1, 2 or 3 times daily given as long as desired. Rarely embolism or sudden death occur due to the breaking off of part of an intracardiac (usually appendiceal) thrombus or to cardiac standstill. General hygienic measures are important when auricular fibrillation exists.

Auricular Flutter. If flutter persists for more than a few hours digitalization is tried and the drug pushed until toxic symptoms appear. If auricular fibrillation ensues, as it frequently does (50 per cent of cases) the drug is withdrawn, and normal rhythm often returns. If it does not, quinidinization may be tried.

Complete Heart Block. It is rarely necessary to treat the block itself, the underlying cause being the important consideration. When dizziness, faintness, syncope and convulsions (Adams-Stokes syndrome) due to ventricular standstill (asystole) occur repeatedly, attempts may be made to prevent such attacks. Most effective is the subcutaneous injection of 1 cc. of a 1:1000 solution of epinephrine (adrenalin) hydrochloride every few hours as needed, the site of injection being gently massaged from time to time. During an attack this drug may be given intravenously. Ephedrine hydrochloride may be used instead of epinephrine to prevent attacks, in doses of $\frac{3}{8}$ to $\frac{1}{2}$ grain (20 to 30 mg.) by mouth or hypodermically 3 times daily. If these drugs are ineffective thyroid extract, 2 grains (0.13 gram) twice daily for a few days, may be tried. Barium chloride may also be tried in doses of $\frac{1}{2}$ to 1 grain (0.03 to 0.06 gram) 3 or 4 times daily for a few days. Finally atropine sulphate subcutaneously or by mouth in the dose of $\frac{1}{60}$ to $\frac{1}{120}$ grain (1 to 0.5 mg.) every few hours may be given a trial if other measures fail. If ventricular standstill is prolonged and death seems to be impending a long needle may be passed into the right auricle through the fourth right intercostal space and epinephrine injected, or better, Hyman's method of repeated induction shocks at the rate of about 50 to 60 per minute may be given at the same site by means of a specially constructed needle and apparatus.

ERRATUM

In the preceding instalment, page 101, there was an error in the description of the three conventional leads of the electrocardiogram, leads 1 and 2 being reversed. The three leads are as follows: Lead 1, right forearm and left forearm; lead 2, right forearm and left leg; lead 3, left forearm and left leg.

TRANSACTIONS OF THE SOCIETY

STATED MEETING, MAY 2 AND 9, 1934

The following were duly elected to membership:

Active Members

Edward Burke Kelly, 1726 Eye Street, N. W.
Robert E. Maher, 3323 O Street, N. W.
William Ross Morris, Washington Medical Building.
Ralph Rhett Rathbone, 3701 16th Street, N. W.
Evelyn A. Rider, 119 Massachusetts Avenue, N. W.
Grace D. Linklater Stone, 1701 Surrey Lane, N. W.
Earl Richard Templeton, 1726 Eye Street, N. W.
Walter Duval Webb, 1800 K Street, N. W.

Associate Members

Viola Russell Anderson, 4000 Cathedral Avenue, N. W.
Rear Admiral Charles Edward Riggs, 1802 R Street, N. W.
George Lewis Weller, Jr., 2929 Cathedral Avenue, N. W.

Reinstated to Associate Membership

Evelyn G. Mitchell, Roxbury, Mass.

Applicants for membership to be voted on in November, 1934:

For Active Membership

Charles Lincoln Bliss, New York University Medical College—1891
Alva Duckett Daughton, University of Virginia—1929
Fofo Mezitis, George Washington University—1931

For Associate Membership

Arthur George Compton, George Washington University—1907

NEWLY ELECTED OFFICERS AND ELECTIVE COMMITTEE MEMBERS

To serve one year from July 1, 1934

A. B. Bennett, President
Ralph M. LeComte, First Vice President
Ella M. A. Enlows, Second Vice President
Coursen B. Conklin, Secretary-Treasurer

To serve three years from July 1, 1934

Joseph Horgan,
Oscar B. Hunter,
Prentiss Willson, members of the Executive Committee.

POST GRADUATE COURSE

The George Washington University School of Medicine offers a post graduate course in female endocrinology, May 4 to 28, 1934. It has been frequently emphasized that short post graduate courses are desirable for affording opportunity to the busy practitioner to maintain contact with advances in medicine. Taking cognizance of this, the following series of lectures were arranged:

Friday, May 4: "A Historical Review of the Female Sex Endocrinology with a Brief Description of the Physiology of the Sex Glands." Jacob Kotz, M.D.

Monday, May 7: "The Chemistry of the Female Sex Hormones." Vincent duVigneaud, Ph.D.

Friday, May 11: "Clinical Hormone Tests, Technic, Indications and Interpretations of Results." Elizabeth Parker, M.D.

Monday, May 14: "Functional Bleeding. Rôle of the Endocrines in the Menopause." Howard F. Kane, M.D.

Friday, May 18: "Dysmenorrhea. A Complete Description of Minor as well as Major Problems will be Discussed: Etiology and Treatment, Scanty and Irregular Menses, Amenorrhea." Jacob Kotz, M.D.

Monday, May 21: "Etiology, Diagnosis and Prevention of Premature Termination of Pregnancy due to Endocrine Disturbances." Howard F. Kane, M.D.

Friday, May 25: "The Endocrines in Obesity and the Neurotic Women with Disturbed Endocrine Functions." Jacob Kotz, M.D.

Monday, May 28: "Frigidity. Oversexed Women and Functional Sterility." Jacob Kotz, M.D.

GEORGETOWN CLINICAL SOCIETY

At the regular monthly meeting of this Society, organized from alumni of the medical department of Georgetown University, held at the Ambassador Hotel, April 17, 1934, the following officers were elected for the coming year: Drs. Grafton Tyler Brown, President; J. Bay Jacobs, Vice President; Joseph J. McHale, Secretary-Treasurer; William P. Herbst, Chairman, Nominating Committee; J. Francis Rogers, and C. H. McEnerney, Membership Committee.

AMERICAN MEDICAL ASSOCIATION

CLEVELAND, JUNE 11–15

The opportunity for attending and participating in important scientific sessions with papers and viewing displays of scientific progress unparalleled at any other medical gathering is at hand. The social features, under the auspices of the Woman's Auxiliary, this year will not be neglected. In our last issue we printed the details of the Golf Tournament. Railroad Companies are offering attractive rates; then too, there are excellent roads for those who desire to motor. *Let the Medical Society of the District of Columbia be strongly represented at this 85th Annual Session.*

James E. Houghton, Lieutenant Commander, Medical Corps, United States Navy, and an associate member of this Society, died on May 3, 1934. He had attained eminence in his chosen field, laboratory medicine. Among the executive positions he had held were: Director of Laboratories, Department of Sanitation and Beneficence, and Medical Director, National Leprosarium, Dominican Republic, 1921–23; Director of Laboratories, United States Naval Medical School, 1923–27; Professor of Hygienic and Preventive Medicine, George Washington University School of Medicine, 1924–27; Lecturer on Tropical Medicine, Jefferson and Hahnemann Medical Schools, Philadelphia, 1931–32. At the time of his death he was Chief of Division of Laboratories and Instructor in Tropical Medicine and Parasitology, United States Naval Medical School. His Society memberships included: Fellow, American College of Physicians and the American Medical Association; member, American Society of Tropical Medicine and American Society of Parasitologists. He was graduated from George Washington University School of Medicine in 1917. His many friends regret deeply his passing.

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA

VOLUME III JUNE, 1934 NUMBER 6

WEIGHT CURVE AND BENEDICT TEST DURING PREGNANCY*

H. W. LAWSON, M.D.
Washington

There is clearly an increasing demand for better medical care of women during pregnancy. In response to such demand general physical examinations are being made more frequently and special lines of study are being developed and used more extensively. Among the latter may be mentioned the more frequent recognition and elimination of foci of infection during pregnancy in an effort to lessen puerperal infection, which is still the greatest danger of childbearing. There is also more careful search for toxic symptoms, with a better appreciation of their significance and more successful treatment of toxemias, so that it is not unreasonable to expect that eventually the dreaded puerperal convulsions will become almost unknown. There are also more careful studies of the size and position of the fetus in relation to the maternal pelvis so that complications of labor due to disproportion and malpositions are more frequently foreseen and avoided. These are, of course, well-known major features of antepartum care. There are features of minor importance, however, which deserve far greater use than is given them at present. In this paper I wish to urge that greater attention be given to one of them, the prevention of excessive gain in weight during pregnancy, and I shall offer a new weight curve which I believe can be adopted safely as a standard for variations in weight during normal pregnancy.

Many years ago my attention was called to the excessive gain in weight of many patients during pregnancy. They did not seem clinically to do so well during labor and the puerperium as those with less increase in weight. In searching for information on this subject I failed to find any acceptable standard for normal variations in weight during pregnancy. It was then still customary to assume that the loss in weight during labor and early in the puerperium was roughly equivalent to the gain made during pregnancy. Since that time a number of articles have appeared which afford considerable information on this subject, but which do not seem to give sufficient data for the establishment of a normal weight curve for the entire pregnancy. I would like, therefore, to call attention briefly to my own studies in this field, limited, it should be noted, to private patients in what may be considered comfortable circumstances, but covering a rather long period.

It is obvious that the weight of patients just previous to the beginning of pregnancy or almost immediately thereafter must be known accurately if reliable figures concerning subsequent variations are to be obtained, and it is just such data that have been most difficult to secure, since the statements of patients concerning their usual weight are too often misleading. Then again, determinations of weight during the early months of pregnancy are usually not very frequent because of the failure of patients to make many office visits at that time.

Under such circumstances it has been possible for me to secure only 220 cases out of over 2,500 studied in the course of 20 years in which conditions more or less arbitrarily laid down were met completely. These conditions included a definitely known weight just previous to the beginning of pregnancy, at least 10 weights during the course of pregnancy, spontaneous onset of labor within 10 days of the estimated date of confinement by usual methods, and a clinically normal course of pregnancy throughout.

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* Read before the Annual Scientific Assembly, May 3, 1934.

The first week of pregnancy was assumed to begin 7 days after the first day of the last menstrual period. This was, of course, arbitrary, but a definite date was necessary in order to tabulate the data by weeks of pregnancy. Of the 220 normal cases of pregnancy assumed to begin uniformly as stated, 84 were delivered during the fortieth week, 75 during the week preceding and 61 during the week following. This would appear to justify the adoption of a uniform date for the beginning of the first week of pregnancy as used in this study.

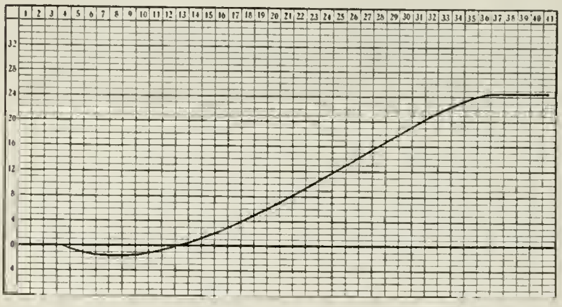

Fig. 1. Variations in Weight during Normal Pregnancy

The curved line shows average variations in the weight of 220 white women during normal pregnancy. The numbers at the left are pounds and those at the top are weeks. Weight just previous to pregnancy is represented as zero. The first week of pregnancy was assumed to begin 7 days after the first day of the last menstrual period. The maximum loss of weight in any case was 12 pounds and the greatest gain was 44 pounds. It is believed that as a rule gains in excess of the above curve should be avoided. A gain of one pound a week after the third month is offered as a maximum standard.

Five years ago when 120 acceptable cases had been secured a curve was charted which has since been used in my practice, all patients showing material variations from that curve being urged to modify their diet accordingly. Recently another curve has been charted for 100 additional patients attended under conditions so modified. These two curves coincide throughout with no average variations for any week exceeding 8 ounces. The only differences of note are the complete elimination of extreme variations in the second series and the absence of a slight loss in weight at the very end of pregnancy. The data for both series have, therefore, been combined and a new curve prepared, which in the form of a card shown about will be used henceforth in my practice.

I am convinced that marked benefits to patients have followed efforts to eliminate excessive gains in weight during pregnancy. Since clinical impressions, however, are not always reliable, I have sought confirmation of this conclusion in another way—and I refer to the use of the Benedict test in the examination of the urine.

It is well known that qualitative tests for sugar are more frequently positive during pregnancy than at other times, although this fact does not always seem to be fully appreciated by members of the profession. A few years ago the head of a laboratory department in a medical school was seriously concerned on finding a positive Benedict reaction in examining the urine of his wife, and it was difficult to convince him that she was not seriously ill and that labor would not be complicated thereby. Recently a prominent internist was told that a patient referred by him showed no abnormal symptoms of pregnancy, but the remark was added that the Benedict test was occasionally positive. That patient was recalled by the internist and subjected to further examinations for what is a common occurrence in pregnancy.

To ascertain the frequency of a positive Benedict test during pregnancy 4,384 specimens of urine from 500 consecutive patients were examined with painstaking care as to every detail of an approved technic. No consideration, however, was given to the time of day specimens were saved nor to other factors that might affect the reaction. Only 52.8 per cent of these specimens showed no reaction whatever. Of the 47.2 per cent that were positive 23 per cent showed only a slight reaction indicated as a trace, 19.8 per cent a definite plus, 3.5 per cent two plus and 0.9 per cent three plus. The degrees of reaction noted correspond to those usually described in laboratory textbooks. Of the 500 patients only 39 or 7.8 per cent showed no reaction at any time during the pregnancy, and approximately 9 specimens of urine from each were examined. Of the remaining 461 patients a trace was found in 18.6 per cent, one plus in 53.2 per cent, two plus in 15 per cent and three plus in 5.4 per cent as a maximum reaction at any time during the pregnancy. It is not pertinent to this paper to discuss such findings as to their significance or in connection with blood sugar determinations which were made in those cases in which the Benedict reaction was frequently positive.

During the progress of this study covering several years, increasing efforts were being made to eliminate excessive gains in weight with the dietary restrictions aimed at that purpose only. Of 1,024 specimens obtained from the last 100 of the 500 patients mentioned, positive Benedict reactions were found in only 38.2 per cent as compared with 47.2 per cent for the series as a whole, a significant reduction of 9 per cent.

The distribution of the positive Benedict reactions during the course of pregnancy was tabulated for the last 100 of the 500 patients and may be of interest also in connection with the weight curve. Beginning with a positive reaction in 12 per cent of the specimens examined during the second month of pregnancy the frequency of the positive reactions increased gradually to 54 per cent at the end of pregnancy, the only variation of note in the rate of increase being a slight reduction during the fifth and sixth months when patients usually feel better than at any other time during pregnancy and when the gain in weight is still low.

Both clinical experience and laboratory findings of the kind here summarized seem to support the position taken that excessive gains in weight during pregnancy, which are of extremely common occurrence, should be avoided and that a standard for variations in weight during pregnancy such as the one here proposed should be generally observed.

AMEBIASIS, WITH SPECIAL REFERENCE TO THE NON-DYSENTERIC TYPE*

Report of Thirty Cases

Matthew White Perry, M.D.

Professor of Clinical Medicine, Georgetown University School of Medicine

The wide-spread interest in amebiasis produced by the recent Chicago epidemic has prompted the following review of 30 cases of the disease. It is hoped that the study may be of value in showing the frequent occurrence of the disease in our community, and also in recording clinical findings and symptoms as observed here.

Since January 1, 1929, careful study has been made of stools of all private patients presenting symptoms pointing to colonic disturbance. As a result, 30 cases of amebiasis have been identified. In all of the 30 cases, the finding of pathogenic ameba in stools has been confirmed by Dr. Oscar B. Hunter. Only cases with this confirmation of diagnosis are reported, because identification of the parasite is difficult and often incorrectly made.

A discussion of methods of identification of Endameba histolytica and of cysts of the organism will not be given in this paper. The literature on the subject is extensive. There have been many advances, particularly in the finding of the cysts and their differentiation from cysts of harmless forms. This has been largely accomplished by concentration methods and methods of staining. These advances have made it possible to diagnose the cases making up the greater part of this report.

Of the group of 30 cases, 4 presented bloody stools and other manifestations of tropical dysentery. Patients presenting this picture typically are easily suspected and easily identified. Little need be said concerning this group because it is the group giving well-known symptoms. It should be stated, however, that in the acute and violent disturbances which an acute amebiasis may produce, bloody diarrhea need not occur. Rather, the picture of an acute surgical lesion of the right lower quadrant may appear. The ameba is particularly prone to attack the cecum and ascending colon and often the appendix. If such an attack is extensive and secondary infection enters the picture, the surgeon may well think that he is dealing with an acute appendicitis. Reports of surgical deaths of patients in the recent Chicago epidemic were, in certain instances, in patients of this type. It appears that other surgical deaths have followed operation for what was taken to be an acute ulcerative colitis of non-specific origin.

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* Read before the Society, January 31, 1934.

The other patients of the group fell into the classification of the "chronic carrier type," or the "non-dysenteric type," 26 patients in all. Of these it has been possible to follow up 23. Of the 26, 12 were males and 14 females; 25 were white and 1 was colored. Ages varied from a boy of 13 years to a woman of 62 years. It is generally believed now that from 5 to 10 per cent of the whole of our population is infested. Many workers put this percentage higher. It is likely that we are failing to find the ameba in many patients harboring it.

In a consideration of the "non-dysenteric" or "carrier type" of amebiasis, the question immediately arises as to whether it is possible for one to harbor the parasite without harm to the host, and also as to whether there exists attenuated or harmless strains of the organism. These questions seem definitely to have been answered in the negative. Experiments on human volunteers and on kittens and monkeys have repeatedly shown the pathogenicity of the ameba obtained from carriers, and autopsies on carriers dying from other causes have shown ulceration and other pathogenic changes in the colon, particularly the right colon. It seems certain that the ameba cannot long exist in the human alimentary canal without invading the bowel. As in bacterial disease, the matter of individual resistance seems of great importance, however. Amebae of a given source may affect different individuals in a variety of ways, and infestation in a given individual may produce severe manifestations at one time, probably when resistance is low from one cause or another, and at other times produce no appreciable symptoms.

A review of the case records of the entire group of 30 patients has showed the following significant points. Seventeen had never lived south of Washington. Four had lived in the tropics. Nine had lived in the southern part of the United States. Thus, it is seen that the majority of cases had never lived in the part of the world from which we formerly thought most cases came. Of the 4 acute dysenteric cases, only 1 had lived south of Washington; this patient grew up in South Carolina.

The symptom most frequently complained of was that of excess of intestinal gas. This symptom in itself is a vague one, but represents intestinal unrest, commonly associated with dull lower abdominal discomfort, with at times audible peristalsis and the passage of an excess of flatus. Seventeen patients gave this complaint. Fifteen gave as a prominent symptom exhaustion, or a sense of being generally below par and depleted. Fourteen reported as an important symptom abdominal pain and soreness. Ten complained of nervousness or nervous exhaustion, with insomnia and headache often associated. Ten reported frequent attacks of looseness of the bowels, unaccompanied by the passage of blood or mucus. Eight had had no looseness, but were in general constipated. Eight came for relief of some manifestation of chronic rheumatoid arthritis. In the picture as observed, patients with this disease give the symptom-complex which we have long roughly classified as due to spastic colitis.

The occurrence of rheumatic manifestations in 8 of the 26 cases suggests that amebiasis may produce a background for diseases of focal origin. It is of interest in this connection to recall that most workers in arthritis have laid emphasis on absorption from the colon as a factor in its etiology. May it not be possible that in the ameba carrier we have a condition existing favorably to the entry of bacteria and their products? All evidence supports the view that even in the mild cases the bowel is invaded from time to time and with varying degrees of severity by the parasite. It would seem logical to assume that such invasion does likely provide a portal of entry for infection. These 8 patients, in all instances, had previously had the usual foci of infection cleared in an unsuccessful effort to secure relief of rheumatic disease. Following the eradication of the ameba, striking improvement was noted in 5 of the 8 cases.

A review of the physical findings in these patients reveals little of a positive or uniform nature. The majority have shown a sensitive, spastic descending colon and a sensitive cecum. These findings occur, however, in so many patients who do not harbor the ameba that great reliance cannot be placed on them. They are only suggestive. The fact that in the resting state the normal descending colon is empty and spastic is often overlooked. It is to be kept in mind, too, that in many highly sensitive patients, palpation of the colon normally elicits tenderness.

Sigmoidoscopic examinations in the non-dysenteric group were unfortunately not done in all cases. In those done, the mucous membrane of the rectum and sigmoid was normal in 40 per cent. In 60 per cent, it was found glazed and injected, with sticky mucus adherent in spots, and with granular areas apparent. No ulcers were seen. It is believed that in the carrier cases damage to the mucous membrane occurs mainly in the right portion of the colon.

X-ray examination was found of little aid in diagnosing patients in this group. At most it has shown the picture of a spastic colon, a finding attending many other gastro-intestinal manifestations.

Blood counts in these patients have failed to reveal anemia of definite importance. White-blood cell counts have varied from a low of 5,000 to a high of 11,600, with only 9 giving a count above 8,000. Eosinophilia has not been noted. Filament, non-filament counts were done on 9 of the chronic cases. These gave a non-filament count above 15 in only 1 case. Two of the dysenteric cases were thus counted, 1 giving a non-filament count higher than normal.

Abscess of the liver was not observed in this group of patients.

From the study it would seem that no patient harbored the parasite without harm. Other diseases adequate as an explanation of symptoms existed in only 2 of the patients. One had a carcinoma of the gastric fundus, and the second had gall stone disease.

In brief, it seems that carriers of Endameba histolytica do have gastro-intestinal symptoms, but often of a vague nature, that many are subject to periods of looseness of the bowels without passage of blood or mucus, and that others are depleted. An impressive number have a definite tendency to arthritis and probably to other diseases of focal origin. Possibly too much emphasis has been placed upon malposition of the colon, congenital malformation of the colon, chronic constipation and autointoxication in relation to arthritis. The colon is by its very nature a sturdy organ, and it would seem that some method of invasion of its membrane must exist to make possible the entry of bacteria into the blood stream.

While amebic abscess has not been observed in these cases, there are many reports of such in the literature in patients without a history of tropical dysentery. The ameba may cause relatively few symptoms in the colon and still produce abscess in the liver. Occasionally a case of massive ulceration of the abdominal wall is' observed following drainage of an abdominal abscess, as, for example, drainage of an appendiceal abscess. In some of these cases the ameba has been found in the ulcerated area, having reached the abdominal wall from the bowel through the drainage tract. Appropriate treatment of amebiasis has been reported curative of such conditions.

All patients, with the possible exception of one, were of cleanly habits and of good social strata. Amebiasis may be spread from one individual to another only by fecal contamination of food or drink. Cysts from amebic cases may live for months. The carrier problem is, accordingly, of great importance from the angle of the public health. The Chicago epidemic has adequately emphasized this point. The chronic carrier of uncleanly habits is a definite menace to those for whom he prepares food. It would seem that already the disease has spread so rapidly that regulation concerning food handlers in public places must be considered. Periodic examination of the employees of hotels and the like, with exclusion and treatment of infested persons, would seem indicated. In a city like Washington, where many of our domestic servants are ignorant and often uncleanly negroes, we have a definite menace. The 1 colored case included in this report was that of a servant, a South Carolina negress. She developed the severe manifestations of amebic dysentery with passage of blood and mucus. This servant prepared the food for a child. Although no transfer of the ameba to the child seems to have occurred, the situation was a dangerous one. Dr. John H. McLeod tells me that he has recently seen amebiasis in a child of 8 years of age. Dr. McLeod has permitted mention of his case. The child first developed symptoms which were interpreted by a capable surgeon as those of acute appendicitis. Appendectomy was done. On the evening following the operation the child developed diarrhea with passage of blood and mucus. This persisted irregularly until discharge from the hospital. Three months thereafter she came under the care of Dr. McLeod, who found a large number of both vegetative and cystic forms of Endameba histolytica in the stool. During these 3 months she had suffered repeated attacks of looseness with blood. Appropriate treatment led to prompt cure. This patient is cited because it emphasizes the surgical implications of the disease, and also reminds us of the probable importance of the disease in pediatrics.

Of the 26 non-dysenteric cases, 3 did not reply to follow-up letters. Eighteen were followed. Five are still under treatment. Of the 18 patients followed and having completed treatment, 11 reported cure, 4 improvement and 3 were failures. Of the 3 failures, 1 had died of carcinoma of the stomach.

Treatment of amebiasis is somewhat different in the dysenteric and non-dysenteric groups. In the former, no drug equals emetine for control of severe manifestations. Emetine is best given by hypodermic as the hydrochloride, in a course totaling not more than 10 to 12 grains. A grain to a grain-and-a-half may be given daily. While the immediate effects of this drug are most gratifying, it rarely serves to eradicate the parasite, and must be followed by other treatment. During acute manifestations, large doses of bismuth subcarbonate are also helpful, this substance acting as a gastro-intestinal sedative through its mechanical effect, and possibly having also certain amebacidal powers. Following control of the acute phase, one of the arsenicals, of which carbarsone seems the most effective, is given in 2 or more courses at intervals of a week. A course consists of 0.25 gram twice daily for 10 days. At times it has been necessary to give carbarsone 0.25 gram 3 times daily. Carbarsone is a cumulative drug, like emetine, and cannot be given continuously.

In the non-dysenteric group, alternate courses of carbarsone and emetine bismuth iodide are given. The former is given as already stated; of the latter 1 grain is given 3 times daily for 4 days, making a course of 12 grains.

In both groups, the patient is given a bland, smooth type of diet.

In all patients, stools have been checked 1 or more times following treatment, and in only 2 has it been necessary to repeat treatment. It has not seemed difficult to eradicate the ameba in the cases seen.

In summary, it may be said that the non-dysenteric form of amebiasis is prevalent in our community. Amebiasis of this type seems of importance as an explanation of certain forms of obscure digestive ill-health. It has a possible significance in relation to diseases of focal origin, such as arthritis. It has also, due to the character of our population, a special relation to the public health. Recognition of the disease splits off from a large group of patients with colitis, of heretofore indefinite origin, a group having established etiology.

THE TREATMENT OF PIGMENTED MOLES*

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A pigmented mole, usually spoken of as Nevus Pigmentosus, Melanotic Nevus or Benign Melanoma, may be of several varieties, ranging from the small, non-elevated, pigmented macule to the large, verrucous or papillomatous giant nevus that occupies large parts of the body surface. The term "mole" usually includes only the smaller members of this family which may be hairy or smooth, elevated or macular.

These types of lesions are usually benign. They are supposedly epidermal fetal rests that may manifest themselves at birth or may lie dormant and appear as late in life as the adolescent period or later. The tumor persists throughout life without other change than a very slow extension until it reaches mature growth. This extension is most marked during the growing time of the host.

Histologically the nevus consists, first, of nevus cells which are usually cuboidal with large, swollen nuclei always arranged in groups, rows or columns, and multinuclear nests in the superficial portion of the corium and more deeply in the corium as a dense tumor formation; and second of pigment or melanin found in varying intensity in the basal layer of the epidermis, a small amount through the rete about the basal layer of the hair follicle, mostly in the nevus cells themselves and also in the chromatophores or spindle-shaped cells, which are frequently branching and lie in the superficial part of the corium, mostly among the nevus cells, and serve only as pigment carriers (since they give a negative "Dopa" reaction).

For many years there was much controversy as to whether these nevi, the nevus cell and the cell manufacturing melanin arose from the epidermis or the corium. It is now nearly universally conceded to Bruno Bloch and his followers that melanin is manufactured only in the epidermis, chiefly the basal layer or cells arising from this structure, except in the instances of the Mongol Fleck and the Blue Nevus, in which pigment is produced by the melanoblast lying deeply in corium and arising from fibrous connective tissue cells of this structure. Pigment-producing cells give a positive "Dopa" reaction, or oxidation of di-oxyphenylalanine, shown by staining gray to gray-black or black of the cells in frozen section or in frozen section after 24 hours of formalin fixation.

Foot and Laidlaw present an argument in favor of the neurogenic origin of these nevi, coinciding with the theory of Masson.

Laidlaw uses the following facts as the basis for this hypothesis:

1. Pigmented moles are rich in nerve fibers and tactile cells as shown by special silver stains.
2. End-bulbs of nerve fibers make exact contact with nevus cells as they do in normal skin with the tactile cells of the epidermis and of hair follicles.
3. In their elevation, pigmentation, innervation and grouped tactile cells in the corium, moles resemble the tactile spots of reptiles and amphibia.

In the course of evolution, reptilian tactile spots were replaced by mammalian hair follicles (cat whiskers, etc.). The hairy, pigmented mole appears to be a link or transition from pigmented tactile organs of mammalian type. In its hair follicles it is mammalian. In its pigmented, elevated character it is reptilian-amphibian.

If one is to treat melanotic tumors he must be able to recognize the Blue Nevus, which has deeper blue-black color and a much deeper deposition of pigment, and which is recognized as a much more dangerous tumor to handle. Malignancy from this tumor or from the Mongol Macule is a true melanosarcoma, which metastasizes quickly and usually to the lung. Any amateur manipulation or stimulation of this lesion is dangerous and foolhardy.

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* Read before the Annual Scientific Assembly, May 3, 1934.

Malignancy arising from any other melanotic nevus is necessarily a melanocarinoma, since it arises from epidermal structures. This has for many years been wrongly called melanosarcoma.

Another type of malignancy arising at the site of moles, both pigmented and non-pigmented, is the epithelioma, both basal-cell and prickle-cell in type. Halkin strongly advises careful wide excision-coagulation, not only of the epithelioma but of the nevus, which has been pushed down into underlying tissues.

The fact that the mole is capable of becoming the most malignant of all malignant tumors is certainly an argument for its removal, if that removal can be accomplished without danger to the patient; the possibility of this accident is certainly not greater than 1:1,500.

What rôle does irritation play in changing a comparatively harmless pigmented mole into fatal malignancy? Why can a lesion on the sole of the foot withstand 80 years of scraping around in a shoe, or a mole in the beard be cut at more or less regular intervals without undergoing any apparent permanent change, while just one splinter of steel, as in a case of Evans', starts the explosion? We know no plausible explanation, except that in the few cases in the literature and among our own cases when we could carefully check the anamnesis, there always seemed to be infection, the irritation of which, or its resulting inflammatory reaction appeared to be much more irritating than the contusion itself.

There seems to be no doubt among all observers of these lesions that irritation is a direct factor in the production of malignancy. Therefore, any pigmented mole that is located at belt, collar, garter line, or under tight clothing, should be removed before it becomes enlarged. Among the dangerous irritating factors is severe sunburning. Moles in the scars from furuncles, pyodermic lesions and traumatism should be removed. A safe rule is to always remove a mole as soon as possible after it has been subjected to a blow or other contusion. When it becomes inflamed, or shows rapid or sudden change in color, especially becoming darker, it should be taken off. There is one type of melanotic lesion that usually starts as a pin-point to pin-head sized spot at any time up to 35 years of age, is always mistaken for a comedo and squeezed, after which it occasionally grows vigorously. This lesion must be destroyed especially widely, since it has a tendency to turn up at a distance of 0.5 cm. from the original lesion without local recurrence. We have had experience with at least 3 of these lesions in persons 27, 32 and 35 years of age. All were rapidly increasing in size. All were desiccated widely. One of these lesions showed 4 relapses over a period of $2\frac{1}{2}$ years; none of these relapses was within the desiccated scar. The first relapse was malignant histopathologically. The question as to whether this particular type of lesion is malignant from the time of its appearance or later can only be decided by watching the lesion at its beginning and doing a biopsy early.

There are 3 or possibly 4 methods of procedure accepted by different groups for the removal of the pigmented mole, whether growing or quiescent. The first is complete surgical excision by the cold knife with a good one-half inch of healthy tissue on every side and beneath, as recommended by Bloodgood, Francis Carter, Coley and Houget, and many other good surgeons, most of whom heartily condemn all other methods. Handley advises complete dissection of the lymphatics. Surgical incision for biopsy or incomplete excision is hopelessly and inexcusably bad technic. Bloodgood advises cautery after malignancy begins. Of more than 400 cases of proven melanotic malignancy, other than metastases from the eye, that we have been able to collect from the literature, surgical failure has resulted in about 99 per cent of the cases at the end of the 5 year period, as against 100 per cent of cures of the benign mole in all reported cases.

The second accepted method of treatment is X-ray or radium irradiation, as early advocated by Pusey, later by Frazier, Simpson and others. It is a well-known fact that melanotic tumors, especially benign tumors, withstand almost, if not as much, radiation as normal skin. Evans and others advise hypermassive, soft unfiltered X-ray radiation (62 Kv. eff., 6″ sp. gap, no filter, 28 cm. or 11″ target skin distance, 5 ma., for 20–25 minutes), producing a slough in one dose. Evans and many of his X-ray adherents also condemn all other methods as inadequate and perilous. By X-ray or radium alone or combined with surgery, the mortality rate is lower than by surgery alone. McEuen reports 2 cures in 6 cases and Evans 3 cures in 30 cases after 5 years. Cures by Holfelder, Ratera, Pusey and others have been reported.

The third method of treating is by blocking well away from the lesion with novocain, being careful not to infiltrate the lesion itself, and then thoroughly desiccating, first just beyond the border of the lesion and gradually working under it to seal up the blood vessels and lymphatics, then gradually desiccating from the edge toward the center. This is followed by gentle curettage, not deep enough to cause bleeding, and further desiccation of any pigmented spots that are frequently uncovered by the curettage, finally finishing by light desiccation over the curetted area, as advocated by Clark et al. This method of treatment has been in use in our office by one of us (C.A.S.) for 20 years, and by the two of us for 9 years, during which time thousands of benign moles, melanotic and white, have been treated. Many thousands of moles have been similarly treated by Black, Wyeth, Pfahler, Eller and others without malignancy developing which could be attributed to the method done thoroughly. A recurrence in situ is the best evidence that treatment was not complete, not that the method chosen was wrong. Incomplete, desiccation is as thoroughly wrong as incomplete treatment by any other method. It is very seldom that one finds a melanotic nevus so superficial that it can be desiccated without leaving a scar, but the scar always fills in well and in most instances is hardly noticeable after a period of time, the cosmetic results comparing very favorably with those attained by surgical excision or any other accepted method.

In the case of a rapidly growing mole, of one suddenly becoming much darker in color, of the Blue Nevus and of the clinical melanocarcinoma, there are 2 methods of procedure: first, hypermassive unfiltered X-ray without biopsy, and second, when biopsy is necessary the use of the cautery knife after carefully surrounding the lesion with a coagulated area. Bipolar coagulation should always be used in this class in preference to desiccation. If malignancy is found or there is any question of malignancy, hypermassive X-ray therapy should always follow. In proved melanocarcinoma, lymphatics and lymph nodes draining the area should receive deep X-ray treatment whether they are enlarged or not.

Frequent check-up on all cases must be insisted upon for very obvious reasons.

These or combinations of these 3 are the accepted methods of treatment today; the use of CO_2 snow, acids, electrolysis, and all other methods are antiquated and condemned as unsafe. Any of them is probably safe in the hands of the expert exponent in the handling of the simple mole. All are dangerous in the hands of the inexperienced. Since the advent of newer X-ray and radium methods, together with the more skillful use of combined surgical endothermy and diathermy, more cures of the malignant pigmented tumors have been reported than before their time, when the surgical was the only method used. We, by our method, have apparently cured many recurrences following excision ranging from small spots to black, fast growing tumors, and 2 after excision and radium of unknown dosage. By apparent cures, we mean no recurrence or signs after 3 to 20 years. We have had but 2 serious recurrences to our knowledge. One was in the case previously described. In the second case recurrence occurred not in the primary lesion but at a distance of 1 cm. The recurrence was treated, and has not relapsed after 3 years. The primary lesion in this case was a rapidly growing, black tumor the size of a quarter.

The prognosis with melanotic malignancy is certainly bad, but not as hopeless as it was 15 years ago, and 20 years hence should be as much brighter by improvement of old and discovery of new methods of attack.

In the case of the simple mole any of the 3 accepted methods of approach, if properly done, we believe to be adequate. All of the condemnation in the literature is wrong and unfair. In melanotic malignancy hypermassive X-ray therapy is undoubtedly superior to past methods of procedure.

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THE MILD DEPRESSIVE REACTIONS*

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The subject for discussion this evening is the mild self-limited type of depressive reaction which is often seen by the general practitioner and by the specialist of every description but which is, unfortunately, not so often recognized and appropriately treated. Due to the fact that our psychiatric teaching is to a large extent carried out in mental hospitals where only severe cases of the depressive reaction are seen, there has been a noticeable lack of interest in the mild forms. During the past 10 or 15 years a small number of articles have appeared in the journals on various phases of the subject, but as yet most psychiatric text-books either say nothing at all about these cases or at most give one or two paragraphs to a consideration of them. The severe types of depressive reaction are obvious enough and the patients showing them are usually committed to a hospital. These are the cases which more or less follow the description to be found in nearly all text-books.

Following the Wundtian psychology of the late nineteenth century which divided each individual into the 3 spheres of emotion, thought and volition, these patients were described by Kraepelin and others as showing melancholia or emotional depression, difficulty in thinking and decreased psychomotor activity. Although I feel that this description of the severe depressive reaction is misleading, it would take us away from our subject to enter into a discussion of the reasons for thinking so; perhaps it will suffice to say that some of the patients show very little obvious difficulty in thinking and others give no evidence of the so-called decreased psychomotor activity. It should be emphasized that we must give up this static concept in order to understand the subject at hand. We must give due consideration to all of the functions of the individual—physiological, chemical, psychological, endocrine, sexual and neurological—and regard his personality as the integration of all of these functions. It is worthwhile quoting Barker at this point. He says: "We are, therefore, gradually coming to learn that, though it is as important as ever to pay attention to the changes referable to single organs, it is also important to remember that the human being as a whole is greater than the sum of his parts, and that we should pay more attention than formerly to the reactions of the human personality as a whole, that is to say, of the total psychophysical unit." At the same time we must give heed to the fact that we are not dealing with an isolated individual and must take into account his economic, social and familial relations.

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* Read before the Society, April 11, 1934.

At the outset we should realize that many, if not most, of the patients with a mild depressive reaction consult us not primarily for the feelings of depression but for any one or more of a miscellaneous host of bodily complaints, although on close investigation a change of feeling tone or mood will always be found. There is a wide variety in the chief complaint as given by these patients. One says he is tired and fagged out, has lost his energy and cannot work any more; another complains of loss of appetite, weight in the abdomen, gas, constipation or other symptoms referable to the gastro-intestinal tract; the third complains of frequent headaches; and another tells us the awful news that he has lost his sexual potency and life no longer seems worth living. So the chief complaints run, and there are many more. We sometimes hear from the patient that he is "just nervous," by which he may mean that he is anxious or fearful or disgusted or miserable or nearly anything else. Or he may say that he cannot sleep well or that his heart is bothering him or that his vision is blurred. Ziegler, in a study of 112 cases of affective disorder without organic disturbance at the Mayo Clinic, noted that distress of some kind in the head was the most frequent complaint, followed closely by epigastric and abdominal distress. He lists a dozen or two other complaints in various parts of the body.

When we take the family history of the patient, we not infrequently find a record of depressive episodes in one of the parents. The patient is apt to describe himself as a sensitive individual with an inclination to show emotional oscillation between good cheer and blue spells, or perhaps as an individual who is always inclined to look on the dark side of life. He may give us a history of one or more short periods of relative inefficiency at his work, with slight difficulty in sleeping and loss of appetite, but without any tangible depression. In some cases, however, we obtain a history of previous frank depressive reactions.

Very often the first thing that comes to the attention of the patient is increasing difficulty in carrying on his work. At the same time he notices diminution in energy. As time goes on, other symptoms show themselves. Most of the patients have some trouble with their sleep. Falling asleep is often difficult, but this is not nearly so troublesome a feature as the early morning waking of which the patients complain. They tell us they sleep well until 4 or 5 in the morning; on waking at this early hour they cannot go back to sleep again, and it is not unusual for these patients to sleep only 5 or 6 hours night after night. Some of the patients complain of disturbing dreams of an unpleasant nature. Parallel with difficulty in sleeping goes loss of appetite, although occasionally we see a depressed patient who eats as well as ever. The patients tell us that food has lost its taste and that they have to force it down. Naturally, this results in loss of weight, and we often see a loss of 10 to 20 pounds in a comparatively short time. Frequently various other symptoms of the gastro-intestinal tract are complained of, particularly in patients who have been hypochondriacal in this respect; in fact, the symptoms referable to the digestive tract may be prominent enough to overshadow all other symptoms, with the result that the patient consults the gastroenterologist.

In men there is usually some decrease in the sex appetite; this may be very slight or amount to a total indifference to sex relations. Not infrequently the patient becomes temporarily impotent and rushes off in alarm to see the urologist, whose examination will reveal perfectly normal genitalia. Women, also, notice a decline in sex desire, but they generally take the situation more calmly than do the men. The psychoanalytic school sees in the sexual situation the causative factor of the illness, but my feeling is that they have laid far too much emphasis on it, and I see no reason why we should attach any more importance to it than we do to the loss of appetite for food, the difficulty in sleeping or any other of the interferences with bodily function. It is certainly not wise to suppose that every case of impotence or fridigity is an entity and to fail to see that it may be only one of the trees in the forest. In fact, any organ or any group of organs in the body may be the seat of hypochondriacal complaint.

Upon inquiry into the mood of the patient, although very likely he has not given lowness of spirits as one of his complaints, we find him describing himself as "low" or "blue" or "downhearted" or worried or dejected, or perhaps he says that life has lost its zest. In a few patients, in place of the frank depression, there may be anxiety; this is usually associated with symptoms which the patient refers to his heart, namely, attacks of palpitation with breathlessness and fear of death. Not infrequently the patient tells us that he has had crying spells. We must inquire about the presence or absence of thoughts of suicide; in these mild cases such thoughts may never have been present, but in the severe cases they will practically always be admitted. Nevertheless, in mild cases we must always remember the existence of potential suicidal trends. It is particularly in this part of the examination that we must make up our minds whether we are dealing with a mild reaction which can be handled extramurally or a severe one requiring hospitalization of the patient.

The patient frequently says that he feels much better in the evening than in the morning; more rarely the reverse. This symptom, known as diurnal variation, is of great importance, yet it is frequently ignored by psychiatrists as well as by others. In this regard, Hohman says: "If any of the symptoms can be elevated into the position of greatest significance, it is the diurnal variation in symptoms. . . . . It is curious that this diurnal variability of symptoms has been so neglected by clinical psychiatry."

Other symptoms which we frequently elicit are: difficulty in concentration, indecisiveness, irritability and loss of ambition; or there may be a narrowing of interest and a desire to be let alone, symptoms which are often mistakenly considered evidence of apathy. In some patients certain types of neurotic symptoms may be in the foreground; thus, fears or obsessive types of thinking which the patient has learned to control begin to dominate him, or in some cases make their first appearance. There may be difficulty and slowness in thinking, but in many cases one notices no diminution in the rapidity of thought or speech. The content of the talk is more characteristic, however, in that it confines itself almost exclusively to the many phases of the illness. No hallucinations are present in these mild cases, or delusions in the true sense, but quite often the patient may be mildly self-accusatory, have ideas of self-depreciation, or even some mild ideas of reference. The patient sometimes tells us that he has trouble with his memory, but this is merely due to two factors—his difficulty in concentrating and his lack of interest in things not pertaining to himself. If he has had previous depressive reactions, he can recall them very well, and he will nearly always say that none of them was as bad as the present one; this is a nice example of retrospective falsification of memory. There is no disturbance of the intelligence as such and obviously no deterioration following recovery.

It seems to me that to raise the question whether we are dealing with a neurosis or a psychosis is an artificial one. If we use "psychosis" as meaning insanity in the legal sense, we had better refer to these cases as "neuroses." However, whatever we call them we should recognize their kinship to the severe cases which we do not hesitate to call "psychoses." As Buzzard in the Purvis Oration of 1929 states: "Perhaps one of the chief obstacles to the general recognition of the manic-depressive psychosis has been its unfortunate name with its asylum connection." This is quite true, but we should not let the name confuse us.

The diagnosis can be made without hesitation in the majority of cases, particularly if the physical examination has been thorough and fails to reveal any organic cause for the various bodily complaints. The first thing to be kept in mind is that the condition is primarily an emotional or personality disorder and that the various symptoms are borne on the wave of the depressive affect. I do not mean that an organic condition cannot coexist with a depressive reaction. If I did, I should be falling into the error of supposing that the condition from which the patient suffers must be exclusively mental or physical. I believe we shall find all gradations—purely affective disturbances, affective disturbances intimately associated with and to some extent dependent upon organic troubles and affective disturbances coexistent with organic difficulties but independent of them. Thus, it frequently happens that patients with a gastric ulcer or chronic sinusitis develop a depressive reaction; in some of these cases there may be a close connection between the two, but in others the depressive reaction may be more or less independent of the stomach or sinus lesion. Even in those cases with serious organic disturbances in which the depressive reaction must be placed fourth or fifth in order of importance its existence should not be overlooked, and its presence may prove to be a complicating factor in convalescence.

The psychiatrist is often accused of seeing too many ills as purely functional. No doubt he sometimes, perhaps often, makes this mistake, but there is another side to the picture. According to Hohman, "One not infrequently sees tragic mistakes in which the patient has been neglected because doctors have made a 'snap' diagnosis of neurotic symptoms." "My impression," he continues, "is that it is not the psychiatrist or neurologist who errs in this direction but the physician who does not establish the invariable rule that in all cases there must be a careful and complete examination."

Before an audience not primarily interested in psychiatry, I hesitate to tarry long on the differential diagnosis, but I will state that we must rule out the organic psychoses such as general paralysis or cerebral arteriosclerosis by appropriate neurological, ophthalmological and serological examinations. Schizophrenia or dementia praecox is by no means easily excluded, but we generally see intellectual distortions and oddities of behavior in the latter condition. The absence of more or less continuous depression and the absence of diurnal variation and of sleep and appetite disturbances in the neuroses serves to rule out these conditions. When, however, these symptoms are present in combination with various neurotic symptoms, one is justified in believing that he is dealing with a depressive reaction with neurotic features. One does well to refrain from labelling the patient as a sufferer from a cardiac or gastric or sexual neurosis merely because his heart or stomach or sexual apparatus appears to be the organ which is noisiest in its proclamation of illness. When one does this, he fails to remember that the personality function as such is suffering. Many of these cases are loosely called neurasthenia, but I feel that that term should be reserved for a specific entity rather than be bandied around to mean almost anything not organic and often used as a term of reproach ("nothing but a neurasthenic").

When we come to consider the etiology of these depressive reactions, we find ourselves somewhat in the dark, but not completely so. In the first place, we see them occurring frequently in those individuals with up-and-down swings of mood or in those persons who look on the dark side of life. An attempt has been made in the past few years to correlate the up-and-down temperament with a certain type of body build known as the pyknic type, but up to date the results have not been at all conclusive. The affective type of reaction is generally stated to be more frequent in the female; some authors give as high as 3 females to 1 male, but, as Paskind has pointed out, these observations were all made in hospitals where only severe cases were seen. In a series of 633 extramural cases which he studied from the private records of Dr. Hugh T. Patrick of Chicago, the sex distribution was about equal. These cases are seen at almost any age from early puberty to the seventh or eighth decade, but they are commonest between the ages of 25 and 50, with the first attack most often occurring between 25 and 30. We generally divide these cases etiologically on the basis of the presence or absence of a precipitating factor; we call the former cases reactive and the latter endogenous. The reactive cases are seen to follow shortly after a severe illness, a shock, the loss of a loved one or of money, or any other "slings and arrows of outrageous fortune." However, I do not feel that the untoward event by itself is sufficient; other factors must always be sought, although they will not always be found. In fact, in the endogenous or autonomous type all of our searching will be of no avail. These cases are often described as coming out of the clear sky, and one can assign to them no specific precipitating cause. After the perusal of literature relating to the endocrines, one is reluctant to discredit the belief that the endocrine glands alone are entirely responsible; however, I feel that in many cases mild endocrine imbalance is merely symptomatic, while in other cases it is only one of the many causative factors. In the same way, the woman anywhere between 35 and 55 years of age is told that her menopause, which may be 10 years in the offing or 10 years in the past, is the cause. There is no doubt that the menopause itself is sometimes a largely contributing factor, but I hesitate to place all the blame on it. With regard to organic lesions in general, whether the teeth, tonsils or gallbladder are held to be responsible, I cannot resist quoting Ziegler again. He says: "To explain all the abnormal feelings of patients by organic lesions would be as futile as the hope of explaining the migratory tendency of birds from information obtained from dissecting their wings." The patient or his family frequently give overwork as the cause, but one must be on one's guard here. True, the patient may have overworked, but in many cases questioning will bring out the fact that the patient's usual work seemed more difficult to him on account of his decreased energy. Worry, too, is often offered as the cause, but we must remember that this is only an expression of the illness. Perhaps some day we shall know more about the causes, but I do not believe we shall find any one cause, but a group of causes, which will comprise the individual's heredity, his early environment, his present situation, and all those physiological and psychological factors which weigh in his destiny and course in life.

When we leave the discussion of the etiology and proceed to consider the prognosis, we go out of the dark into the light. We can cheerfully assure the patient and his family that recovery is almost certain; in fact, under the age of 50 or so we can leave out the "almost." As soon as we say that, we are asked, "How long will it last?" Then we are stumped, and the wise physician will never make an estimate at all of duration. The attack may last a few weeks—if shorter than that, it will probably never be diagnosed— or it may last several years. The most disappointed patients one encounters are those who were told 6 months before that they would be well in a month or 6 weeks. The only lead which we have in regard to the duration is the length of a possible previous episode. To refer once more to Paskind, he found that the average duration of Patrick's cases was 4 months, which is considerably shorter than the duration of the cases severe enough to be sent to a hospital. One more fact of importance is that cases with well marked hypochondriasis, or with obsessive types of thinking, are prone to be of much more than average duration. Recovery is usually gradual and lasts over several weeks or longer. Favorable signs are gain in weight, improved sleep and appetite, and the lessening of the hypochondriacal complaints, whatever they may be. We dislike to see a very rapid recovery because it brings in its train the possibility of a relapse. The most frequent curve of recovery is not an unbroken line but a very irregular zig-zag curve with many temporary setbacks. We must inform our patient just what to expect so that he does not become unduly alarmed when he has a series of bad days during his gradual pull upward.

A great deal, perhaps too much, has been said about the possibility or probability of a recurrence. Many of the severe cases do recur, and it is from a consideration of them that we have been led to believe in the inevitability of recurrence. Meyer, however, has pointed out that recurrence, even of severe cases, is not so inevitable. We may be fairly sure that some of these mild cases will not recur, or, if they do, will make their second appearance after many years of good health. The only statistical study of extramural cases is by Paskind, and he found that in 36 per cent of cases the length of interval between attacks ranged from 10 to 40 years. Some cases will recur but will be of such a mild nature as not to be seen by the physician. Just as the inevitability of recurrence has been stressed too much, so has the inseparability of the manic and depressive phases been over-emphasized, with the result that many have come to think of manic and depressive as one thinks of bread and butter. A study of the mild depressive reactions will show that many of the patients never show a manic tendency at any time. The recovery of these cases is spontaneous, and the length of the attack is, I am afraid, neither shortened nor lengthened by our therapy in its present state of knowledge. It must be emphasized that we are dealing with a self-limited illness of uncertain duration but with a good prognosis.

Just what can we do and what should we refrain from doing? Let us take up the second question first. One must refrain from unnecessary treatment of any kind, whether medical or surgical. While it is perfectly true that obvious medical and surgical conditions should be remedied, one should not expect too much from such treatment, and he will be disappointed if he entertains the hope that taking out a chronic appendix or the extraction of teeth or bringing the basal metabolic rate to normal will cause the patient to recover. Of course, I do not mean to imply that normal attention to health should be omitted, but I have the strong conviction that too much attention to the somatic side will either strengthen the patient's already existing hypochondriasis or implant this in a patient previously free of it, with the result that we not infrequently meet patients who after recovery from the depressive reaction present the picture of chronic hypochondriasis for years to come. When one is satisfied that there is no organic lesion present to account for the condition, he does well to refrain from telling the patient that his trouble is "just imaginary." His troubles seem as real to him as they would if they were caused by an organic lesion, and he derives no satisfaction from such a statement. Finally, one should refrain from subjecting the patient to a lengthy and searching analysis. Ross states on this point: "It is essential that nothing in the nature of psychological probing should be done to a patient who is in this group. He will without doubt be a person who is, for the time at any rate, filled with a sense of inferiority, and probing into his past may tend gradually to increase this and turn a mild case into one of great gravity. Such a procedure may turn a non-suicidal patient into one where the danger is present."

This statement introduces us into one of the most important phases of the treatment, namely, the prevention of suicide by these patients. We should remember that all of them are potentially suicidal, and it is our duty to see that the potential does not develop into the actual. There are no absolute rules for determining whether or not a patient is suicidal, and we ourselves must always be on guard for any indications in that direction. A thorough understanding of the patient's personality and illness, and careful but unobtrusive watching on the part of those around him, are two of our greatest helps. There are some psychiatrists who feel that every depressed patient, even those who are mildly depressed, should be under constant observation. It is no doubt an ideal toward which to strive, but in many cases it is not practical, particularly when the patient can stay at his work and when his earnings are essential for holding the family together. However, the patient should not be left alone any more than necessary. One often hears the statement by the patient's family that there is no danger of suicide because he talks about it. We must advise the family of the falsity of this belief and enlist their help in reporting to us any indication of danger. Should the patient become actively suicidal, or should his depression deepen, he must be immediately hospitalized. I feel that a patient suffering from a mild depressive reaction can in most cases be advantageously treated at home. He should continue at his job and should see his physician at fairly frequent intervals. The physician does not have to be a trained psychotherapist to treat the patient; he must, however, be ready to give the patient plenty of time, to listen to the same sad story over and over and over again and to continue to give the patient encouragement and oft-repeated assurance that he has a well-recognized and well-understood disease from which he will ultimately recover. With this class of patients we find that repeated reassurance does not lose its effect and is, in fact, one of the cornerstones of treatment. At the start, we should frankly formulate to the patient and to his family the exact nature of the disease, tell them just what to expect and frankly admit that we can do nothing to shorten its course. We must not tell the patient to "snap out of it," for such a direction merely makes an added burden to a patient already depressed and self-accusatory. If will-power alone cured these patients, our task would be quite easy. We should try to dissuade the patient from constantly looking backward to discover the supposed cause of his illness and should try to cultivate in him the tendency to look forward and to make plans for the future.

The diet should be sufficient to prevent undue loss of weight; often extra milk and eggs between meals are a great aid in this respect. At times simple tonics will greatly improve the appetite; at other times nothing seems to help. Food faddism must be combatted in patients with a focus of hypochondriasis in the gastro-intestinal tract. The patient should be weighed at frequent intervals, since gain in weight is considered to be one of the earliest signs of improvement. For the almost ever-present insomnia in some form or other, barbital or some other sedative should be prescribed. In many of our cases, in fact, it will be found that barbital in $2\frac{1}{2}$ grain doses after meals and at bedtime, although it will not shorten the course, will lighten the depression considerably, and improve the sleep of the patient. It may be given over long periods of time without any ill effects and gradually decreased as improvement occurs. In the case of patients who do not have to earn their daily bread occupational therapy of some type will be found to be very useful in helping them to fill in their time in a constructive way. It is hardly necessary to add that a restricted amount of diversion is a great adjunct in treatment.

When the patient is well, but not before, a study should be made of possible upsetting psychological and environmental factors. Attitudes and outlooks of all kinds may have to be altered, sexual habits changed, more frequent vacations taken, or possibly hobbies developed. An attempt should be made to give the patient as much understanding of himself as he will tolerate. When we have carried out this treatment—and I emphasize that psychotherapy of this sort should be part of the equipment of every physician—we may be sure that we have done our part in helping these patients who present the picture of the mild, self-limited, spontaneously-recovering depressive reaction.

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DISCUSSION

Dr. John Minor: Coöperation of the internist and the neuropsychiatrist is needed particularly in the handling of these cases. Every medical case presents psychological problems, but in these cases the physical complaints may obscure the psychological picture. Sexual disturbances are secondary to the depression and attention should not be focused too much on them. Naturally, every patient should have a thorough physical examination, since cerebral arteriosclerosis sets in rather commonly with a picture of a pure depression and since treatment of the organic state may occasionally clear the depression; even curing myxedema, however, may not relieve the depressed state. Treatment may not be altogether futile. The intelligent physician can help the patient understand himself but it takes a lot of time and effort. Barbital derivatives, if used too freely, may be followed by undesirable symptoms.

Dr. Walter Freeman: It is important to differentiate between the case of mild depression and the neurotic. The previous adjustment to life would seem to be the important factor, since depressed individuals have usually been active and affective before the illness, while the neurotic traits may go back to childhood.

Dr. Roger S. Cohen, in closing: It is questionable whether there is a fundamental psychic weakness in these individuals. The differentiation of a benign depression from incipient cerebral arteriosclerosis is often difficult, since after a year or so dizziness, loss of memory and other phenomena may appear. After 50 years of age some patients do not recover. In contra-distinction to the neurotic, the depressive individual has been well adjusted, can date the onset of his illness, can often describe previous attacks with good health in between, and is apt to be better in the evening and worse the next morning.

ABSTRACT OF PAPERS READ BEFORE THE SOCIETY

"Evipal Anesthesia,"* by **Charles S. White, M.D., and J. Lloyd Collins, M.D.**

Evipal is an anesthetic agent introduced into Germany in 1932 for minor surgical operations. Its great advantage over many of the present anesthetics is the promptness with which it acts, the deep sleep it produces and the speed with which the patient regains consciousness without discomfort. It is safer than many anesthetics in daily use, and the equipment necessary for its administration can be carried in the coat pocket. While the drug is not yet available to the profession at large, it will undoubtedly be placed upon a commercial basis in the very near future at a reasonable cost. We employed Evipal in 100 cases and kept an accurate record of its action in each one. These data indicate that the drug has a great field of usefulness, but it should be administered preferably by an anesthetist. We were able to do many minor and several major operations under the effect of Evipal, and in no instance did the patient seem in the least danger from its use. In 1 case only was there nausea or vomiting. Patients who have taken this anesthetic once ask for it a second time if another anesthetic is required. They state that the sensation of going to sleep is a pleasant one and waking is always without delirium or excitement. The drug is given in the vein of the arm and produces deep sleep in 15 to 50 seconds. The anesthesia lasts from 15 to 25 minutes, depending on the dose. It does not materially affect the circulation or the respiration.

"Major Trigeminal Neuralgia,"* by **Francis C. Grant,** M.D., Philadelphia.

Major trigeminal neuralgia is characterized by one complaint, pain in the face. There are no objective symptoms. Therefore, an accurate description of the type of pain is important. It is paroxysmal, radiates parallel to the lower jaw and is referred to the periphery of the skin areas supplied by the fifth nerve. Trigeminal neuralgia is almost always unilateral. The onset occurs late in life from the fourth to the sixth decade, both sexes being affected equally. One means of treatment exists for this condition, viz., interruption of the fifth nerve pathways, either by section of the sensory root behind the ganglion or by injection of alcohol into the 3 peripheral branches after they leave the ganglion. This report is based upon 100 cases of operative section of the sensory root of the fifth nerve. In this series 1 surgical death occurred. In 7 patients a transient facial paralysis followed operation, and in 7 keratitis appeared in the eye on the operated side. In a series of over 300 alcohol injections of the second or third divisions, the second division was successfully injected in 90 per cent, the third in 85 per cent of cases. The average relief of pain following injection was 16 months. Alcohol injection is an important method in differential diagnosis between facial pain due to trigeminal nerve involvement and pain of other origin. If the appropriate branch of the fifth nerve be blocked, and if pain is relieved thereby, then the pain must have been due to trigeminal involvement. Cancer of the face is frequently accompanied by severe pain. Alcohol injection of the appropriate branch of the trigeminal nerve or section of its posterior root will relieve this pain promptly. By rendering these patients free of pain, their morale and nutrition are improved, and the maximum amount of treatment may be directed against the malignant growth without discomfort.

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* Presented at the Annual Scientific Assembly, May 2, 1934.

* Presented at the Annual Scientific Assembly, May 3, 1934.

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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BLAZING NEW TRAILS FOR ORGANIZED MEDICINE*

Thomas A. Groover, M.D., D.Sc.

Chairman, Committee on Medical Economics, Medical Society of the District of Columbia

Until within recent months there had been for some time a steadily growing sentiment that the code of ethics of the medical profession was in need of radical reform. Originating outside the medical profession, but aided and abetted by a small but influential minority within it, this reform propaganda finally eventuated in the reports of the Committee on the Costs of Medical Care. Since the publication of these reports events have transpired which throw a new light on their sharply conflicting and divergent conclusions and recommendations. Whereas the recommendations of the majority would have substituted business technic for the code of ethics and professional practices of the doctor, we now find business itself impelled to formulate codes designed to correct economic ills which we believe the majority recommendations would have imposed, and which indeed have already been imposed to a considerable extent upon the practice of medicine.

It would seem, therefore, that the trend of events has for the present checked to a limited extent the movement which threatened the complete disruption of time-honored policies and practices which the rank and file of the medical profession consider essential for best carrying out its functions. This, of course, in no way relieves us of our obligation to make more effective the minority recommendations of the Committee on the Costs of Medical Care which we as a Society have endorsed.

Lest you may think that what I may say subsequently is out of harmony with the minority recommendations I will call your attention to recommendation 6 which is as follows: "The minority recommends that careful trial be given to methods which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice."

It is a temptation for me at this point as Chairman of the Committee on Medical Economics to recount with pride and considerable satisfaction what we have done and are trying to do to make the minority recommendations effective. I have great admiration for the hard unselfish work of those engaged with me and for the generous support which the Medical Society as a whole have given us. And yet, as the work has progressed I have had borne in upon me the conviction that a large percentage of the practices which we consider inimical to our economic and professional welfare are the inevitable consequences of a certain lag in comprehending some of the fundamental and practical aspects of the problems we are trying to deal with. In discussing them with my associates on the committee there has been a constantly recurring final comment: "The doctor is to blame." I will not elaborate upon these conclusions further than to say that they prevail regardless of whether the practices are connected with hospitals, governmental agencies, welfare agencies, industrial medicine or any other form of group activity in the medical field.

Until now our action with respect to these practices which we decry has been largely combative not only with respect to the various agencies concerned but with respect to our own members who are essential to their existence. I submit that our efforts in that direction will accomplish little of permanent value unless counterbalanced by constructive efforts directed to the solution of the problems which engender these practices.

Suppose we ask the man in the street, "Do you consider the physician important or essential to the welfare of the community?", I dare say we would receive practically 100 per cent affirmative answers.

Suppose we again ask the man in the street, "Do you consider the Medical Society important or essential to the welfare of the community?", I fancy answers would be something like this: "Don't know anything about it," "What have they got to do with the community?," "My understanding is that the Medical Society is just for doctors."

Such answers, of course, betoken a pitiful lack of influence of the Medical Society in our community life, which must in turn immeasurably weaken the influence of the Medical Society on its own membership, giving rise to the very practices which we find it necessary to combat. In other words, there is created a vicious circle which I believe can be broken only by a deliberate, carefully planned sustained effort on the part of organized medicine to court the good will and respect of the public.

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* Read before the Annual Scientific Assembly, May 2, 1934.

I would not have you believe that we are not doing something along that line now. The renewed activity of our Society in public health matters and the guidance given in connection with the projected group hospitalization plan serve as examples and are to my mind highly commendable. Such sporadic efforts, however, will not suffice. Indeed, I believe nothing short of making the Medical Society a permanent center to which the public and physicians will instinctively and confidently turn for advice and guidance will meet the requirements. I do not need to remind you that there are literally scores of health activities here sponsored by and under lay control in which the Medical Society has no voice. Worse still, such advice or recommendations as we may voluntarily offer are often regarded as unwarranted and presumptuous interference.

I dare say that many of you are already saying, "Yes, all you have been saying is true, but what are you going to go about it?" Well, I have a remedy to suggest advertising. I mean just that—advertising—clean, clever, continuous publicity and paid-for advertising of medicine and the organized medical profession.

I can already sense the bristling antagonism which such a suggestion provokes in the minds of many of my hearers. To a limited extent I share their feeling. For the individual doctor to shout his prowess from the housetop simply betokens a lack of culture or a wilful disregard for the elements of good taste which we should forever frown upon. In its broader aspect, however, we have permitted traditionalism to usurp the place of realism. Our activities have been permitted to gather about them an air of secrecy and mystery reminiscent of the spiritualistic seance. There was a time when that was what the people wanted from the doctor, and such being the case, it was perhaps good business to let them have it, but that day is past, and the sooner we realize it and conduct our affairs accordingly the sooner will our public influence be restored.

Time will not permit going into elaborate detail as to how this can be worked out. Indeed, details can be developed only as the idea itself evolves and begins to be put into practice.

I have already indicated that a liberalization of our policy regarding publicity is a prime necessity and provides the first hurdle to be overcome. In this connection I can think of no sound reason why any creditable scientific paper or act of this Society should not be given to the Press verbatim in order that they might extract from it anything that they might consider of news value. Indeed, I can think of no valid reason why the press and public should not be welcome at our meetings. Just as an example, let me cite the recent action of this Society setting forth its viewpoint with respect to the relationship of physicians and hospitals. To us it represents the equivalent of an important State paper, and as such it should have no little value as news. If, lacking the requisite news value, I submit that we should have paid for its publication in the public press in order that every one might be put on notice as to exactly where we stand in the matter. I believe such a course would have increased public respect for this organization, and perhaps more important still would have increased the respect of our individual members for it, and confirmed them in their resolve to stand by the principles they had enunciated. As it is, I have a lurking fear that for all practical purposes these principles, like the rose, "were born to blush unseen and waste their fragrance on the desert air." I likewise have a feeling that the splendid work of the Bureau of Medical Economics of the American Medical Association is failing to achieve results for lack of sufficiently intensive efforts to put it across.

I trust that in speaking of the necessity for planned effort to gain public favor you may have noticed that I said we must "court" it. I used the expression advisedly because to "court" implies the bestowal of gifts. It is perhaps the most subtle and effective form of advertising and one employed alike by the street fakir and the largest corporations.

If then, my premises are sound, and granting that we have overcome some of our inhibitions regarding publicity, the next step would obviously be to perfect the necessary organization, lay in the necessary stock of goods, and begin advertising them in the daily papers, saying "Come, we have something interesting and valuable to give you if you will only ask for it."

As to organization, the minimum essential would require the employment of a competent full-time Secretary-Manager. I believe that the time will soon arrive when such an officer will be considered necessary anyway apart from the program I am endeavoring to outline. Necessary assistants would have to be provided as the program develops and expands, and in time more space than is now available would probably be required.

For a beginning our stock of goods would not have to be expensive, merely a collection of attractive, well-chosen pamphlets to advertise to the public which they could obtain free of charge upon application to the Medical Society of the District of Columbia. Such pamphlets should not be advertised *en masse* but individually, in order to provide necessary variety. The health pamphlets distributed by The Metropolitan Life Insurance Company which they advertise over the radio illustrate the type of publication I mean. Some should be provided dealing with matters of purely local interest. In general, they should deal with non-controversial subjects, but some should be sponsored with the idea of provoking discussion. These might, for instance, appropriately embrace a discussion of various aspects of the health resources of the community, with a view to bringing about a more efficient and economical set-up.

Now, the type of publicity I have so far described will mainly serve the purpose to make the community, including the medical profession, Medical Society-minded. There are many ways by which this could be facilitated that would cost little or nothing. For instance, by following the practice of dozens of other organizations of having a weekly column in the papers giving an account of our activities both prospective and retrospective would be helpful, not only in letting the public know that the Medical Society is alive, but also in stimulating the interest of its members.

I wish that the time might come when our own members would consider it an honor and a privilege to have printed on their stationery, prescription blanks, etc., "Member of the Medical Society of the District of Columbia." As it is, outside of our own professional coterie, few either know or care whether we are members or not. To become "Medical Society-minded," therefore, is in itself a matter of no little importance, but that alone will not establish organized medicine in a place of leadership, which should be our main objective. Such leadership I think can be attained only by doing at least some of the many jobs in the medical field which ought to be done and which can be done only by collective action on the part of the medical profession. A single example will serve to make this clear.

We have, for instance, the knowledge and the means for eradicating diphtheria. Even without any compelling law such as we have in the case of smallpox, I believe this Society could step in and do the job, simply by advertising that we, the Medical Society of the District of Columbia, for the sake of humanity and as a contribution to the welfare of the community, would freely, without cost and without price, pledge ourselves to its accomplishment. Such a challenge, I dare say, would very soon become a topic of conversation over the coffee cups. "What about this diphtheria business?," asks Mrs. Jones. "Looks like those fellows mean business," chimes in Mr. Brown. "If they keep up that sort of thing," says Mrs. Welfare Organizer, "I guess I'll soon have to be looking for another job;" and the Health Officer, I think, would horn in with a heartfelt "Thank God."

I anticipate that some of my hearers might like to ask, "Did I understand you to say that we are to advertise to get these children brought to us for free inoculation?" Yes, that is exactly the idea I intended to convey; not only that, but I suspect you would have to help pay for the advertising. But, you will say, "We have to do so much free work now!" True! true! true! But the point is, neither you nor the medical profession get any credit for it as well as no pay. As our program advanced I think we could and should remedy that situation, and this again can be accomplished by advertising. Some of this would not necessarily be expensive. For instance, it is a common belief that the attending staffs of our hospitals and dispensaries are paid for their services, and the indivdual recipients of their ministrations naturally feel no sense of obligation or appreciation for them. I think, therefore, that the corridors and wards of every hospital and every dispensary should be so placarded as to show the relationship of our members of the medical staff to them, making it plain, if not at variance with the facts, that they are not paid for their services, and that their only reward depends on what the individual patient pays the individual doctor.

Hospital reports make acknowledgment of contributions and donations with meticulous detail except as to the contribution of the medical staff, which is conspicuously perfunctory. Although not ordinarily of much interest, one modeled after this fashion might create a mild sensation:

DONATIONS

The League for the Larger Life: Six bassinettes.

Dr. Prentiss Willson, President, Medical Society of the District of Columbia: 27 babies delivered (15 colored, 12 white).

Friday Morning Club: 1 keg salt fish.

Dr. James A. Gannon, Chairman, Committee on Contract Practice, Medical Society of the District of Columbia: Operated 19 cases of piles.

Junior Alliance: 11 dozen slips.

Dr. Oscar B. Hunter, Chairman, Committee on Governmental Agencies, Medical Society of the District of Columbia: 22 dozen dark field examinations for spirochetes—69.2 per cent positive.

Mrs. E. A. Philan-Thropy: Cash $100 (at 6 per cent).

Dr. H. C. Macatee, Chairman, Committee on Hospitals and Dispensaries, Medical Society of the District of Columbia: Free service rendered Mrs. Philan-Thropy's parlor maid, second butler and chauffeur to the value of $106.

In this connection you will recall that recommendation 2 of the minority report on the Costs of Medical Care was as follows: The minority recommends that government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden. If this objective can be obtained it is obvious that the profession would be in a much better position to accomplish many of the things which require collective action.

Now, I trust that as I have gone along I have not said so much about advertising as to have diverted attention from its purpose. What I want to get across is the idea that if the medical profession does not want to be pushed, it must lead. It does not require any particular gift of prophesy to foresee what we will ultimately be pushed into if we do not establish ourselves in a position of leadership through constructive effort. There is just one answer—State Medicine.

State medicine would come about after this fashion: If hundreds of lay-controlled agencies are permitted to control and direct the practice of medicine as at present, and these continue to multiply, ere long conditions will become so intolerably chaotic that the medical profession itself will beseech the State to take it over. In other words, the medical profession will be forced to choose what it considers to be the lesser of two evils. Such an eventuality may be delayed, but never circumvented permanently, by argument alone—which is practically the only weapon that has so far been employed.

You may have already sensed that the more aggressive policy I am now proposing carries with it many broad implications that I can only hint at in the short time remaining to me.

To gain leadership is one thing, to retain it, another, despite the fact that the two may to some extent be carried along together.

To maintain leadership organized medicine would have to assume a larger measure of responsibility for the efficiency of its membership both with respect to curative and preventive practice. Let me illustrate my meaning by propounding a question: What should be done with respect to physicians who, either through ignorance, or indifference to their responsibility, treat syphilis inefficiently, according to modern standards, and have little or no concern with respect to checking its spread? You may be sure that leadership could never be long maintained by ignoring questions of such fundamental importance. Although I am not proposing advertising as a panacea, I would suggest that even here it might provide a fulcrum for the promotion of efficiency and the elevation of standards.

Suppose, for instance, this Society were to advertise to the public that after careful investigation they had prepared a roster of those among its membership who were qualified to treat syphilis and that same might be obtained, along with other informative data on the subject, by applying here for it. The radicalism of such an idea will shock you, just as it did me when it first occurred to me, but, after all, is it so radical? Radicalism is conditioned by time, place and circumstance. Apart from these it is simply a word of 10 letters signifying nothing, and when contrasted with the control of venereal disease by the State, the above suggestion may be regarded actually as rather conservative.

In this connection let me point out that several of the specialties have for some time had qualifying boards for the certification of those who profess competency in their respective fields. It seems to me that to date these have stopped short of accomplishing any very useful purpose because of the fact that they have failed, not only to inform the public as to who have passed the qualifying tests, but by not even so much as publicizing the names to the medical profession generally. The boards for ophthalmology and otolaryngology have been certifying candidates for several years, and I dare say that scarcely anyone outside their own group could name a single individual who has been approved. I do not consider it an impertinence to ask—what's the use? Why not fulfil the logical purpose of such boards by publicizing their findings?

The promulgation of reforms such as I am suggesting must naturally depend upon the development of sentiment favorable to them. That this is already under way is evidenced by the following quotation from a recent address by Frederick C. Warnshuis, for many years speaker of the House of Delegates of the American Medical Association: "It is lack of application that has retarded the medical profession, prolonged public misconception and condoned the promulgation of plans and schemes arising within and without our ranks. . . . There is one obstacle that is difficult to surmount. The doctor who has lagged soon becomes a confirmed laggard and resists extending himself. It is he who inspires the thought as to whether or not the time is not at hand when membership qualifications of graduation and licensure should not be increased by demanding the pursuing of a specified amount of postgraduate work each year in order to retain society membership. When the public becomes informed as to our requirements for continued membership, the fact that a doctor is a member of his county society will have the merit of endorsement as to his professional ability. The non-member will be compelled to exert himself, or a waning practice will be his. It is felt that this suggestion warrants serious consideration and possibly application. Competency must be accomplished, for without it adequate medical care is impossible. This is our chief defensive activity. It should be one of the outstanding obligations of every county unit, guided by the state medical organization."

I could cite other evidence of an impending breakup in the hitherto prevailing policies of organized medicine, and it is none too soon for this Society to begin preparation for it.

The cost of such a program will loom large in the minds of many. Can organized medicine afford it? Before answering, I would have you consider carefully as to whether we can afford not to move forward along the lines suggested. I am sure that one very practical aspect of the problem lies in the fact that there are far too many medical organizations in this country, local, regional and national, that owe no allegiance to the American Medical Association or its constituent bodies. The veritable multitude of independent societies must of necessity tend to weaken the influence and usefulness of the only representative organization of the profession. There are no figures available to indicate what these independent organizations cost the doctors of the country. Only a little reflection is needed, however, to convince anyone that it must be a very large sum. Although they are ostensibly for scientific purposes, many of them are in reality propaganda centers for special groups. In other words, they are engaged under the guise of a scientific body in advertising themselves and their group to other physicians and other medical groups. I submit that it would be better to spend less in selling ourselves to each other, and correspondingly more in selling ourselves to the public after the manner and through the channels I have indicated. Here at least you have one clue which, if followed, would result in defraying a large part of the expense of the program I have outlined.

In conclusion, there are one or two points which for personal reasons I would like to make plain.

First, I have no illusions that "reforms" are ever permanent. What we are actually doing or trying to do all the time is to "reform reforms." The reforming business began in the Garden of Eden and is likely to continue until the last trumpet sounds.

Second, my references to the traditions of medicine betoken no lack of honor or respect for them. They at least enable the doctor to say, as did Rabbi Ben Ezra, "What I aspired to be, and was not, comforts me." Such a boon is denied to many whose idealism is pitched on a lower plane. I believe, however, that occasions frequently arise when practical considerations make it necessary to change our perspective with respect to traditions, not with any idea of discarding them, but with a view to preserving their fundamental values. As I conceive it, such a situation now confronts organized medicine, and it is on that basis that the foregoing suggestions are submitted for your consideration.

MEDIEVALISM IN MODERN MEDICINE*

(*Continued from May, 1934*)

Prentiss Willson, M.D.

Washington

The sex problem is one of the most important confronting civilization at the present day, and a consideration of medievalism in medical thought concerning it may well serve as a point of departure for this final phase of our discussion. It is an unassailable proposition that any tenet held by civilization, in order to have survival value, if not, indeed, to escape being harmful and destructive, must be in accord with sound biological principles; for there is no evidence that man will ever succeed in throwing off the physical restrictions imposed by his animal ancestry. Among the instinctive urges that we thus inherit, none is more compelling than the sexual. In attempting to solve the problems that have their origin in this fact we may first profitably bear in mind that what was determined by the ameba, back in the primordial slime, is not subject to revocation by legislative fiat, moral code or theological precept. We may well assume that none such will ever prevail against the mandates of natural law. The solutions of these problems will ultimately force mankind to answer certain questions that basically and fundamentally underlie them. The first of these is: Is a standard of sexual conduct based on lifelong monogamy biologically sound? It is unnecessary to discuss this question here; we need only note that, in occidental cultures, the accepted social pattern of sexual conduct is monogamous. This forces us to pose the second question: Is the current economic status of our culture compatible with sexual expression along this line? To this the answer is an unqualified negative. In the face of the fact that the period of maximum sexual activity is obviously physiologically and biologically fixed in the early years of maturity, and while giving lip service to a single standard of sexual morality for men and women, to the ideal of a life-long monogamy within the bonds of that which, in our mystical moments, we are pleased to term holy matrimony, we complacently permit the continuance and development of an economic situation that, for the vast majority of the population, postpones marriage to a later and later time of life. Then, when evidences of the open revolt of our young people against such a paradoxical absurdity assail us increasingly from every side, we throw up our hands in holy horror and paraphrase the Pharisee by saying: "Lord, I thank Thee that I was not as they are!" In our shock at seeing the accepted moral standards going by the board, we lose sight of the truly saddest phase of the revolt. For it should be perfectly possible to conceive of a sexual code as different from ours as day from night, and yet one that would have about it an essential, if pagan, beauty, to justify the prose poetry of Maeterlink's description of the nuptial flight of the virgin queen: "Prodigious nuptials these, the most fairylike that can be conceived, azure and tragic, raised high above life by the impetus of desire; imperishable and terrible, unique and bewildering, solitary and infinite. An admirable ecstasy, wherein death supervening in all that our sphere has of most limpid and loveliest, in virginal, limitless space, stamps the instant of happiness in the sublime transparence of the great sky; purifying in that immaculate light the something of wretchedness that always hovers around love, rendering the kiss one that can never be forgotten; and, content this time with moderate tithe, proceeding herself, with hands that are almost maternal, to introduce and unite, in one body, for a long and inseparable future, two little fragile lives." Such lines will never be inspired by a code that mistakes lust for love, promiscuity for freedom. These are a few of the basic factors underlying the modern sex problem. It will never be solved by medievalism.

And yet medievalism is discernible in every position taken by medicine with respect to it. Its attitude on the general subject reminds one of Mark Twain's sentiment about the weather: a great deal had been said about it, but nothing ever done about it. Its literature on sex is enormous, and yet it deals almost exclusively with the psychoneurotic and psychiatric results of sexual maladjustments to the accepted order. In this respect it does much to justify Bertrand Russell's satirical summary in his "Marriage and Morals." He says: "If we are to believe Freud, the emotions of the young child toward the other members of his family have a somewhat desperate character. The boy hates his father, whom he regards as a sexual rival. He feels, in regard to his mother, emotions which are viewed with the utmost abhorrence by traditional morality. He hates his brothers and sisters because they absorb some of the parental attention, of which he would like the whole to be concentrated upon himself. In later life, the effects of these turbulent passions are of the most diverse and terrible kinds, varying from homosexuality at best to mania at worse." But look for courageous and constructive suggestions for the correction of the basic difficulty and one will usually find only what Will Durant calls "fig-leaf phrases used to cover naked ignorance." This vast literature does prove that no one knows the load of misery and wrecked lives that follow in the train of repression, inhibition and taboo in the sexual sphere better than the physician. If he would avoid the charge of Oliver Wendell Holmes that science may turn the heart to ice or stone, let him assume a rôle of leadership in attacking this and like problems of the day by advocating laying the axe to the root of the tree; is he not taught that removal of the cause is the most certain and efficient cure?

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* Presidential address, delivered March 14, 1934. This address appears in two instalments, of which this is the second.

There are certain subsidiary questions arising out of the general sex problem, toward which the attitude of medicine is equally medieval. At the last meeting of the American Medical Association Dr. Barton Cook Hirst, Chairman of the Section on Obstetrics and Gynecology, and certainly one of the leading specialists in the country, read a paper on the "Four Major Problems of Gynecology." Among these he listed birth control. At the same time a resolution to appoint a committee to study this subject was favorably reported to the House of Delegates, but tabled by a vote of 66 to 46. Such is the heavy hand of medievalism. One had thought that intellectual freedom was the handmaiden of science, but apparently this does not hold true in the councils of the greatest medical organization on earth. Of the same order is medicine's attitude toward sterilization. The capacity to reproduce and to experience pain are on exactly the same biological level; one safeguards the individual, the other the race. Either may become a curse to its possessor, and either is susceptible of surgical destruction to the advantage of the patient. When properly indicated, then, in either the interest of the patient or of society, why should vasectomy or salpingectomy be any more frowned upon than excision of the Gasserian ganglion?

Another subsidiary is the venereal disease problem. Within the memory of many of us we have seen yellow fever almost reduced to a medical curiosity, malaria and typhoid become rarities, tuberculosis rendered comparatively impotent, and the infant death rate cut practically in half. Why? Because the attack on these particular problems could be made on a scientific and non-emotional plane. But not so with venereal disease; here we have to deal with theological concepts of sin, lay taboos and medical medievalism. Let us make this contrast. Assume that it could be demonstrated beyond any successful contravention that certain governments had, by means of a system of governmental control, succeeded in practically stamping out cancer within their jurisdictions. What would be the reaction in this country to a government and a medical profession that ostensibly took no cognizance of this success, took no action to call it to the attention of the people, and no effective measures to bring about here a similar, devoutly to be wished for, consummation? And yet, such a success has been achieved in Denmark in the control of syphilis. This is a situation that the medical profession of this country can well afford to look squarely in the face. Not to do so, whether or not we like the concomitant implications with respect to the socialization of medicine, is, on any grounds of a broad and lofty altruism, criminal; and, from the point of view of expediency, folly. We find no difficulty in salving our consciences when we disclose professional confidences in reporting a case of smallpox, but gasp in horror at the mere suggestion that we report syphilis; yet which is the greater present menace? If some physicians made half the effort to uphold their code of ethics, when it is assailed by legislative enactment regarding industrial medicine, that they do when it is assailed from the same source regarding venereal disease, the profession would have been saved a great deal of recent turmoil and recrimination. This does not exhaust the subsidiaries of the general sex problem that have special medical interest. There is the attitude of civilization toward the unmarried mother and the so-called bastard child, toward sexual perversion, toward sex education, and toward the establishment of adequate and efficient agencies for the prophylaxis and cure of sexual maladjustments, through centers for the dissemination of premarital and post-marital advice and administration of needed psychotherapeusis. Incidentally, if psychotherapeusis should have as important a place in medicine as its proponents would have their fellow practitioners believe, why does it largely remain the only branch of therapeutics gratuitously unavailable alike to the pauper and the physician needing it? So far the few medical voices heard on these problems are like the one of old, heard calling unavailing from the wilderness.

But it is not alone on problems having their origin in the giving of life that the light of reason may shed the benediction of medicine's healing mercy. If reason forces us to modify the Biblical injunction, "Be fruitful and multiply," by adding, provided in so doing ye do not spawn the witches brood of crime and ignorance, war and famine, pestilence and disease, that fatten on over-population and reproduction of the unfit, to what conclusion does it force us as to the command, "Thou shalt not kill?" Medicine now stands before the bar of public opinion, defendant in more than one cause; can its advocates quote in its defense the noble words of Portia? Let us hear them once more:

> "The quality of mercy is not strain'd;
> It droppeth, as the gentle rain from heaven,
> Upon the place beneath: it is twice bless'd;
> It blesseth him that gives, and him that takes:
> 'Tis mightiest in the mightiest; it becomes
> The throned monarch better than his crown:
> His sceptre shows the force of temporal power,
> The attribute to awe and majesty,
> Wherein doth sit the dread and fear of kings;
> But mercy is above his sceptred sway,
> It is enthroned in the heart of kings,
> It is an attribute to God himself;
> And earthly power doth then show likest God's
> When mercy seasons justice."

Or would the prosecution point with telling effect to the muddle of specious legalisms, of sacerdotal concepts of an allegedly merciful God, who visits the sins of the fathers upon the children unto the third and fourth generation, with which the clear light of medical reason is obfuscated in a cloud of medieval sophistry, until the quality of mercy is strained so fine that it would pass a Bergfeldt filter? Why should the physician, who bravely accepts the horrid but legal task of destroying the unborn child, that the mother may live, be forced to stand impotently by, and watch the agony of parents with an innocent, helpless babe condemned, by congenital defect or birth trauma, to a life in which idiocy must be prayed for, since it blinds insight; or, not only to withhold the hand of mercy from the sufferer in the terminal stages of cancer, in that awesome room wherein cries for pity mingle with the stench of putrifying flesh, but to employ every recourse of science to prolong the torture, on some such fallacious and specious pleas as, "While there is life there is hope," or "The function of the doctor is only to save and prolong life?" Has society any greater ethical or moral right to protect itself by putting the murderer to death than to be relieved of the mounting burden of caring for the hopelessly insane, who from year to year drag out a terrible existence in the midst of the nightmare delusions of a diseased mind? Because these questions are admittedly difficult, and contain pitfalls for the unwary, are we, as a profession, to remain in the silence of moral cowardice, or assume the leadership of courage; are we, as a people, to be forced to admit that Shintoism is inherently more humane than Christianity, or to see to it that fundamentalism in theology gives place to reason?

Another point at which medicine, through subservience to conventions with no claim to acceptance save those of long established usage, subjects itself to justifiable ridicule, is in the matter of so-called expert testimony. Not a day goes by that we are not treated to the spectacle of medical experts, employed and paid by the litigants, appearing in court to testify to diametrically opposed views on the medico-legal questions at issue, testimony that it is known in advance will always be favorable to the contentions of the side furnishing the remuneration. That the law is passive under the implications of this situation is no reason that medicine should be likewise. Here is accorded it an opportunity to demonstrate the high ideals of its code of ethics, and by concerted effort to force lawyers and legislators to do away with a situation calculated to some day cause Justice to remove the bandage from her eyes, in order to enjoy a good laugh. It may be true, as lawyers claim, that the appointment by the court of an impartial expert or commission to advise it on technical matters, is difficult or impossible under the rules of evidence; this is a reflection on the rules of evidence, not on the basic soundness of the proposed change. It may help us here to reflect that medicine may be medieval in some of its concepts and practice, but that the law is antediluvian in many more. For instance, in the Capital of the Nation we have a lunacy law which, in many of its provisions, is as archaic as an insane asylum of the eighteenth century; but show in the records of the local Bar Association the least attempt to point out its fallacies or initiate a movement for its modernization.

In view of the general trend of the times, and the recent activities of this Society, it would seem inadvisable to conclude this address without some reference to the subject of medical economics. We are considering medievalism in medicine; since it is as discernible in our attitude toward our own problems as toward those of our patients, it is altogether fitting that we accord a modicum of attention to our present professional difficulties. While the categories overlap, these may be divided into problems having their origin in the mutual relationship between us and the public, and those that affect us intramurally only.

At the present time the medical profession of this country is suffering from its age-old adherence to a code of ethics that is hopelessly out of step with an increasingly commercial civilization, that worships the golden calf instead of the golden rule. For centuries physicians, without thought of remuneration, have contributed of their time and best effort to the alleviation of human suffering. In this country alone this contribution to charity reaches the staggering figure of $1,000,000 daily, or approximately $365,000,000 a year. Not only the public at large, but charitable foundations and even the Government itself, have slowly grown to regard themselves as entitled to this colossal tax on the profession, not as beneficiaries of medical charity, but as a matter of vested right. The doctor should know from sad experience that his most carping and captious critic is likely to be the patient whom he treats gratuitously; he must learn to realize that this psychology is just as easily engendered in the mob as in the individual. Without any collective understanding of the fact, the medical profession has been for many years the most outstanding practical exponent of socialism. What more natural, then, than that the reformer, in his effort to effect its establishment, should seize upon medicine as the most vulnerable point for the initial attack? And what more natural than that the doctor should resent the idea of being the guinea pig on which the nostrums of what he believes to be social quackery are to be tested? Medicine is a vital and fundamental foundation stone of modern civilization, the most notable trend of which, the mass concentrations of population in urban centers, would be absolutely impossible without it. Another striking illustration of this truth is the history of the unsuccessful attempt by the French to construct the Panama Canal. And yet, despite the absolutely essential nature of his service, and his equally essential and enormous charitable contribution to the great cause of public health, the average annual net income of all physicians in the United States is $5,200.00, and of the general practitioner $3,900.00. These figures indicate that the medical profession of this country is now contributing to society gratuitous services to be valued at in excess of 40 per cent of its annual net income.

The main task confronting organized medicine at the present time is the correction of this paradoxical situation; to accept it longer would be to let medievalism run riot. It is to be devoutly hoped that this may be accomplished through the use of the velvet glove, and without resort to the mailed fist. For the mailed fist of medicine has behind it a power compared to which the power of organized labor, for instance, pales into insignificance. The grocer sees nothing wrong in letting the pauper starve, the merchant in letting him freeze, yet they have food and blankets on their shelves. The lawyer would let him lose his patrimony, when he has knowledge that might save it. Why? Because the pauper hasn't the price. Would not the physician be ethically and morally on as sound ground as these, did he refuse his services under like circumstances? Organized medicine—provided it pays less attention to medical politics and more to medical economics, and remains organized, which means that the individual must consent to subject himself to discipline—can, tomorrow, not only make the position of the physician impregnable, but gain for it the front page of every paper in the land, the moment it announces that, until such time as Government sees fit to requisition the goods of the merchant, and the services of the lawyer or other professional man, for the benefit of the needy, his services to such will be rendered only if and when suitable and satisfactory remuneration is guaranteed by the State; until such time let the dread spectre of pestilence seek its victims where it will.

But the methods of the mailed fist are usually those of bigotry and intolerance; those of the velvet glove of reason. As a component part of current civilization, no one can deny that such a stand on the part of medicine would be equitable; its expediency is another matter. As my distinguished predecessor, Dr. Macatee, pointed out in his Presidential Address, civilization holds no brief for the medical profession; as a matter of fact, it would be foolish for it to do so. Medical research has not only demonstrated the splendid altruism of physicians beyond all question, but has enabled us all to gaze hopefully down the vast vistas of the future to a time when disease will be all but conquered; when life, like a bark wafted over a sea of glass by gentle breezes, will progress smoothly from the cradle to a far more distant grave. This is the dream of both the doctor and the layman; its realization will depend upon enormous and now undreamed of changes in both medicine and civilization. At the present time society is engaged in experiments in government, the implications of which are obviously socialistic. These are groping attempts to effect an amelioration of current social and economic ills. As has been pointed out, we have every right in equity to oppose them when they single out medicine for attack.

On the other hand, if such is to be the path of progress, it is futile for us to attempt to take another; our success would not even compare favorably with that of King Canute with the tide. We will do well to avoid even the appearance of obstructing progress by showing a willingness to accept change as rapidly as its value to humanity can be demonstrated. The whole history of medicine during the last half century or more, has been a demonstration of the efficacy of governmental control in the reduction of communicable disease. This has been accomplished through governmental application of the discoveries of medical research to improved sanitation, in the matters of water supply and sewage disposal; to better regulation of the production and distribution of milk and other perishable food products; and to enforcement and popularization of methods of immunization in the prophylaxis of typhoid, diphtheria, scarlet fever, etc. In opposition to these activities of government the profession does not raise its voice. It accepts with fair grace, and usually obeys, regulations requiring the report of acute communicable diseases, but fails lamentably in fulfilling the same obligations with respect to tuberculosis, and, more particularly, venereal disease. And yet these regulations are all of vital importance in affording government the opportunity to control the spread of disease through direct contact. The informed public is well aware of the progress that has followed governmental activities along these lines, and appreciates the fact that such progress has been made despite the strangle hold of the sordid hands of cheap politics on municipal and state health offices; it will not tolerate the obstructive tactics of alleged self interest on the part of the medical profession.

We would do well to remove our shoulder from a position in front of, to one behind, the wheels of progress. To do otherwise is but to hasten rather than retard the socialization of medicine. When we do we will be attempting an intriguing physiological experiment: let us determine whether the reflex following stimulation of the 'pocket-book nerve' is not, to some extent at least, subject to voluntary control through the application of reason. For the immediate future anyway, there is in prospect an abundance of work for the profession; indeed if we but educate the public to the advantage and necessity of prophylactic medicine, we will discover a virgin, lucrative, and almost untapped source of revenue. Let us remember also that socialism has never pointed out a substitute for the personal relation between physician and patient. What we should aim to do then, is to direct current social trends, in so far as they affect medicine, into channels that we alone, from education, training and experience, are capable of charting. Only in this way are the European blunders in the attempted socialization of medicine to be avoided. The danger is both imminent and grave; this paper is a plea that we meet it with reason, not with rationalization, that we armor ourselves with an increased respect from our patients, to be earned by trying to understand their problems more fully and by showing more courage in guiding them in their attempts at solution. In doing this we cannot succeed if we indulge in medievalism in our thinking.

Time will permit us to do no more than mention, with the utmost brevity, a few of the problems arising from our relations with each other. Many of these have their origin in the gradual sapping of the lofty ideals of the profession by the commercial spirit of the civilization of which it is a part But there are other factors; commercialism in medicine is not only a defense reaction, usually at the subconscious level, against the injustices we have been considering, but has been well-nigh forced upon us by the exigencies of an economic situation in the production of which we have had little, if any, part. Socialistic legislation, particularly along the lines of Workmen's Compensation Laws, has also been important. Would you have some examples of commercialism in medicine? Let us read one item from the fee list of this Society: "Case of syphilis (or gonorrhea), CASH, $5.00 to $25.00." This is the only place in the fee list where the word cash appears. Are not the implications here such as to call to mind the methods of the quack and the charlatan? They would certainly seem to indicate a willingness to profit from fright and misery.

Another example is the all too prevalent practice of fee-splitting. When the general practitioner begins selling patients to the highest surgical bidder, the dignity and prestige of the profession, and the safety of the patients are equally in jeopardy. But this practice is favored by a fundamental anachronism, which, despite its iniquity, the profession not only accepts blindly and medievally, but makes little or no effort to correct. Surgeons and other surgical specialists, in so far as their work differs from their medical confreres, are the mechanics of the profession. The practitioner who correctly differentiates between acute appendicitis and lobar pneumonia in a child, and the surgeon who takes 20 minutes to do an appendectomy, can be said, if one be surgically-minded, to have contributed equally to its welfare; the former gets $3.00, and the latter $300.00. What can we do about it? We must attempt to educate the public with respect to the enormous value of the diagnostic service rendered by the physician in such cases, and, possibly by the methods of psychoanalysis, cure the surgeon of his delusions of grandeur. Until we do, fee-splitting, like the poor, will always be with us. In fighting the unwise socialization of medicine, holding ourselves too cheaply, supinely accepting the inequities which have been previously pointed out, will prove to be no more fatal than permitting ourselves to be tainted by the commercial methods of business and high finance with which we are surrounded. We must avoid commercialism as we would the plague.

At this point I am forcibly reminded of the anecdote of the eminent divine who was preaching a sermon on the subject of the Minor Prophets. After one hour and a half he paused long enough for oratorical effect, to ask this question: "And now what shall I say about Habakkuk?" Whereupon a voice from the rear of the church answered: "You can say anything you like about him, brother, but I'm going home." So I had best draw to a close.

The preparation of this paper has been a labor of love. Throughout the more than a quarter of a century that has elapsed since the early days of my practice among you, this Society has meant much to me; inspiration, education, companionship and, to the extent of my ability, opportunity for service to organized medicine, a service that I have always found to run parallel with service to humanity. On its roster are the names of men and women for whom I entertain sentiments of the utmost admiration and respect, and among whom I have found that most priceless of human experiences, friendship. In the years that remain to me my most cherished memories will be not only of your confidence, but of the charitable oversight of my faults and failings, through which you have permitted me to serve you as your President; it is your distinction that makes the office so signal an honor. To give offense to any of you would be not only a poor recompense for such kindly consideration, but to go contrary to every wish of my heart, and, for this reason, I would close on a note of apology.

In the thought and effort that have gone into my preparation for tonight, I have been conscious of an inner compulsion that has forced me to candor in holding up a mirror to disclose what I conceive to be some of the more glaring faults in the art of that medicine which I love. But the love of medicine is an intangible thing, whereas the love of friends is a vital reality, that dims the eye and pulls at the heart strings; its obligations are well-nigh paramount. In a democracy, however, it would seem that they must yield to those of good citizenship. Our Government, or any other democracy, is founded upon the universal recognition and acceptance of two fundamental principles: the first is the necessity for government; the second, its duty to restrict the personal liberties of the individual only to the extent made imperatively necessary by the demands of a social existence. It is the duty of every thinking man and woman to uphold these precepts, no matter at what cost. Failure to do so results in legislative departures from them, which, whether at the behest of organized and militant majorities or minorities, can ultimately lead only to chaos and destruction. It is somewhat difficult to see why all cannot unite in opposition to anti-semitism, Klu-Klux-Klanism, and the efforts of any organized religious bodies to enforce their own peculiar cultural standards and beliefs on the citizenry as a whole, through the legislative enactment of archaicly puritanical Sunday 'blue laws,' prohibition, statutes forcing attendance at public rather than parochial schools, and Comstockism, which attempts to legally establish sexual moral codes, governmental censorship in art and literature, and to place birth control, advocated by 83.3 per cent of 1,846 members of the Michigan State Medical Society, in the same category with pornography. To do otherwise is but to establish precedents which will inevitably come back to haunt some of those who are loudest in their cheering when the other fellow's ox is being gored. To do so would seem to be a good example of consistent, red-blooded Americanism. Nevertheless, because of a haunting fear that some of you, my friends, may feel that I have gratuitously attacked religious beliefs, moral codes, or ethical precepts which you hold sacred, or, according me that need of friendship that I give to you, entertain grave fears regarding my ultimate salvation, that I would ask to be permitted to close in a manner otherwise too personal.

This, then, may be taken as a confession of faith. Atheism asks us to make a religion out of negation; agnosticism one out of doubt. Yet neither satisfies that inner longing, that aspiration of the human heart toward better things, which the record shows was dawning in the half bestial men of 50,000 years before our era. May we not hope that ultimately the day will come, in the millions of years that stretch ahead of us, when the impenetrable veil that now hides the mystery of mysteries will be at least partially withdrawn, disclosing a divine plan of the Eternal Spirit of the Universe more satisfying than any yet conceived by the mind of man? In the meantime why can we not unite in intolerance toward intolerance? Those of us who, despite early training, have found it impossible, on mature reflection, to let our minds take root in the ritual or creed of any current faith, can still aspire to leave some foot prints on the sands of time, to show by their direction that we attempted to walk humbly, if falteringly, with our God. And if we be required to formulate some creed, to give ritualistic expression to our thoughts, we can cite the splendid words of Alfred North Whitehead, in his Lowell Lecture of 1925: "Religion is the vision of something which stands beyond, behind, and within, the passing flux of immediate things; something which is real and yet waiting to be realized; something which is a remote possibility and yet the greatest of present facts; something that gives meaning to all that passes, and yet eludes apprehension; something whose possession is the final good, and yet is beyond all reach; something which is the ultimate ideal, and the hopeless quest. . . . ." After all, as John Burroughs, I think, points out, we are like figures on a blackboard, which a master mathematician employs in solving some abstruse problem. Sooner or later we are rubbed out, and other figures appear to take our places. But who can doubt that the problem is so much the nearer the final solution? We, the figures, do not know the purpose that we serve, nor can we comprehend the nature of the problem; but is it not enough to have played our part with other figures; to have contributed something of ourselves to those who will remain when "*Quod erat demonstrandum*" is finally written? If this be all, is it not enough? To experience this revelation is to find peace and surcease in the noble words of the epitaph of that great Huxley, who was one of us, words bitten deep in the imperishable granite that marks his grave:

> "And if there be no meeting past the grave,
> If all is silence, darkness, yet 'tis rest;
> Be not afraid ye waiting hearts that weep,
> For He giveth His beloved sleep,
> And if an endless sleep He wills so best."

COMMITTEE ON MEDICAL ECONOMICS*

Physicians to the Poor of the District of Columbia

The Physicians to the Poor of the District of Columbia, an organization functioning under the direction of the Board of Public Welfare of the District of Columbia, comprised of the following named physicians: Drs. Truman Abbe, Charles M. Beall, Ira W. Dennison, W. G. Suter, Harry A. Spigel, James Dowling, R. U. Cooper, John R. Dull, C. E. Ferguson and D. T. Birtwell, have acquainted your committee with certain facts pertaining to the work done, and the compensation received by the various physicians engaged in this medical charity. The Physicians to the Poor are under the direct supervision of the Secretary of the Board of Public Welfare of Washington, D. C., and are governed by regulations issued for the guidance of the Physicians to the Poor by the previous Board of Charities of the District of Columbia in 1907.

The City of Washington is divided into 10 districts, and each district is assigned to a police precinct. Any indigent patient, living in any of these districts, or any Visiting Nurse, may leave a call for a physician with any of the police precincts. Charitable organizations may also leave such calls. Under the above mentioned regulations, "Each Physician to the Poor will be expected to call at the police station or stations to which he is assigned twice daily, morning and evening. The hours for such calls should be approximately the same each day. If the Captain in charge of the Station House is willing that the station clerk should undertake to notify the Physician to the Poor each evening when no calls for his services have been recorded since the morning call, the Board will accept such notification in lieu of the afternoon visit to the Station House. On Sundays and legal holidays the afternoon visits may be omitted."

In addition to attendance upon cases registered with the police stations, Physicians to the Poor are required to handle indigent emergency cases, send such cases to the hospital when necessary, diagnose and treat contagious diseases; vaccinate poor patients who cannot be referred to dispensaries; render prompt assistance to confinement cases until such are sent to lying-in dispensaries; bring to the attention of the Board of Public Welfare special cases of adenoids, spinal and joint infections, crippled children and children treated for eyes. Give special attention to tuberculous cases and refer the same to hospitals when indicated; see that the Instructive Visiting Nurse Society secures proper diet, milk and eggs, when requested, and give attention to the standards of living among the sick and poor; give judicious counsel as to personal habits, general cleanliness, light, ventilation, proper food and clothing, especially necessary among the least resourceful people and in harmony with the ethics of the profession and the general principles of preventive medicine.

In addition to the above, Physicians to the Poor are required to sign lunacy papers and to testify in court with no additional compensation.

In addition to the above, Physicians to the Poor are supplied by the Board of Public Welfare with medicine, surgical dressings and other necessary medical supplies. They are to coöperate with the Instructive Visiting Nurse Society in seeing that proper nursing is rendered when necessary. They are to call to the attention of the Board of Public Welfare cases of destitution where the ordinary necessities of life, such as food or fuel, are needed to be supplied from charitable sources.

"Each Physician to the Poor is expected to keep a complete record of the cases treated by him, on a visiting list furnished for that purpose. He will forward to the office of the Board of Charities, each Monday, a statement of his work during the week ending with the preceding Saturday. These statements will be made upon forms furnished by the office for that purpose. Visiting lists are to be turned into the office of the Board of Charities at the close of each year."

During the year 1912, the District of Columbia employed 21 Physicians to the Poor at $1 per day. Since that time, the number has been decreased to 10 with 1 special consultant. At the present time, these physicians are paid at the rate of $1 per day less 15 per cent, and are doing about the same amount of work as previously done by 32 physicians. In 1912, 32 physicians made about 6,000 home calls; in 1933, the 10 physicians made about 6,600 home calls, or an average of 55 home calls per month. The number of daily hours consumed in the making of these home calls is variable, and averages about 1½ to 2½ hours. As per diem employees, the Physicians to the Poor are supposed to be on call 24 hours a day and to make at least 2 calls per day at the designated police station with the possible exception of the afternoons on Sundays and holidays. Physicians to the Poor, as per diem employees, are allowed no leave of absence, and are not entitled to compensation when absent from duty.

The Physicians to the Poor feel that they have been grossly underpaid and discriminated against in consideration of the class of service rendered as compared to other professional employees of the Health Department and

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* In this issue appears a report from the Subcommittee on Government and Public Health Agencies, having to do with Physicians to the Poor; also 2 reports from the Subcommittee on Hospitals and Dispensaries, pertaining to (a) the Relations of the Physician to the Community Chest and Hospitalization by the Board of Public Welfare, and (b) Homes, Foundling Asylums and Similar Agencies for Institutional Care, adopted by the Society on March 28, 1934.

Board of Public Welfare, and, therefore, your committee feels that,

WHEREAS, The Physicians to the Poor of the District of Columbia are rendering a needy and efficient service to certain indigent patients in the District of Columbia; and

WHEREAS, These physicians are required by regulations to specifically report at designated places for the allocation of professional calls; and

WHEREAS, The compensation received by these physicians for the class of service rendered is inconsistent with the professional standard required and not in proportion to compensation paid for similar services by professional employees in other departments of the District Government; and

WHEREAS, The cost of transportation for these physicians is in most instances not covered by their per diem allowance; and

WHEREAS, It is the opinion of your committee that the regulations covering the administration of the organization of the Physicians to the Poor are wholly antiquated; therefore, be it

Resolved, That the Medical Society of the District of Columbia make representation to the Board of Public Welfare of said District, with a view to obtaining adequate compensation for the Physicians to the Poor commensurate with the type of professional services rendered.

Resolved, That the Board of Public Welfare be requested to make an adequate adjustment of compensation to take care of the necessary transportation expenses of these physicians.

Resolved, That the Board of Public Welfare be requested to revise their regulations and instructions for the guidance of the Physicians to the Poor in accordance with modern standards and that antiquated requirements placed upon these physicians be eliminated, and regulations substituted therefor, which are commensurate with, and adequate for, the type of professional services rendered, and in accordance with the dignity of such professional standards applicable to members of the medical profession.

RELATIONS OF THE PHYSICIAN TO THE COMMUNITY CHEST AND HOSPITALIZATION BY THE BOARD OF PUBLIC WELFARE

The Committee feels that in the case of the strictly indigent patients the medical profession, with its contribution of service, the only compensation for which lies in opportunity for teaching, has a problem to be solved mutually with the Community Chest. We suggest that the need of the teaching physician, and the necessity of the hospital in providing teaching material for interns and nurses, in order to preserve its status as a Class A Hospital, is in line with one of the problems of the Community Chest. The Chest can conserve its funds and protect itself against imposition in the case of the totally indigent, who, for one reason or another, are admitted to the wards of member hospitals, if it will join the Medical Society in advocating the hospitalization of a portion of the indigent sick in the wards of member hospitals at public expense. This expense should be defrayed by the Board of Public Welfare at a rate equivalent to the cost of hospitalization at Gallinger Municipal Hospital, reckoned on comparable data.

HOMES, FOUNDLING ASYLUMS AND SIMILAR AGENCIES FOR INSTITUTIONAL CARE

The Medical Society of the District of Columbia recognizes the need of organizations of this group for the services of physicians. It does not disapprove the contribution of such services to such institutions, without charge or for a nominal fee in appropriate instances. It strongly disapproves any plan which makes it a condition of such contribution of services that the physician shall be required to make an additional contribution of transportation and other incidental expenses without compensation therefor.

Inasmuch as some of these institutions receive support from the Community Chest all recommendations embodied in the report on relations of the Medical Society to the Community Chest shall apply.

It is recommended that:

Arrangements by any member of the Medical Society of the District of Columbia with any institution of this group shall be considered as contracts and shall be referred to the Committee on Compensation, Contract and Industrial Medicine of the Medical Society of the District of Columbia before they shall become effective.

The Medical Society of the District of Columbia strongly disapproves agreements by its members to furnish medical services gratuitously to such institutions which having such incomes as, if efficiently administered, could provide funds for the payment of a medical attendant, and approval of such agreements by the Medical Society of the District of Columbia shall, hereafter, be required in the manner set forth in this report.

It is recommended that the above principles and regulations be adopted by the Medical Society of the District of Columbia and that copies be forwarded to the governing boards of the respective institutions and be published in the Medical Annals.

Aged Woman's Home
Aid Association for the Blind
Baptist Home
Baptist Home for Children
Carrie Knox Home
Catholic Home for Aged Ladies
Central Union Mission
Children's Country Home
Confederate Memorial Association
Edes Home
Epiphany Church Home
Episcopal Church Home
Episcopal Home for Children
Florence Crittenton Home
German Orphan Asylum
Gospel Mission
Hebrew Home for the Aged

Hillcrest
Holy Family Day Nursery
Home for the Blind
Home of the National Association for Colored Women and Children
Jewish Foster Home
John Dickson Home
Lenthall Home for Widows
Louise Home
Lutheran Walther League House
Masonic & Eastern Star Home
Methodist Home
Morning Star Elk Lodge Home
National Lutheran Home for the Aged
Oddfellows Home
Presbyterian Home
Ruppert Home
St. Anna's Episcopal Home
St. Ann's Infant Asylum and Maternity Hospital
St. John's Orphanage
St. Joseph's Home and School
St. Margaret Mary House
St. Vincent's Home and School
Salvation Army, Inc., Emergency Home
Salvation Army Social Center
Southern Relief Home
Stoddard Baptist Home
Swartzell Methodist Home for Children
Washington City Orphan Asylum
Washington Home for Foundlings
Washington Home for Incurables
Woman's Christian Association Home
Young Women's Christian Home

ACTIVITIES OF SECTIONS

Section on Nervous and Mental Diseases

The Section on Nervous and Mental Diseases furnished the scientific program for the Society on the evening of April 11, 1934. Members of the Section present included: Drs. H. D. Shapiro, E. Hiram Reede, J. J. Shugrue, Lucile Dooley, Roger S. Cohen, D. M. Bullard, J. L. Gilbert, John P. H. Murphy, A. Schneider, Herbert H. Schoenfeld, Ernest E. Hadley, Karl Langenstrass, Walter Freeman, together with about 100 members. Dr. H. D. Shapiro, chairman, presided.

1. Periodic Mechanisms in Animals and Man. **Curt P. Richter, Ph.D.,** Phipps Clinic, Baltimore.

In both animals and man there are differences of spontaneous activity based upon reactions to environment or disturbances in internal balance. Animals are more satisfactory for experimental purposes—some of them are continuously lethargic, like the sloth, others almost as continuously active, like the monkey. The rat is the best animal for experimental control, and by operations on various glands marked differences in spontaneous activity can be brought about and measured by means of a running wheel. For instance, the loss of the gonads causes a permanent drop in body activity. In all of these experiments a certain periodicity is noted. There is a phase that varies with the periodic contractions of the stomach and is associated with regular periods of eating. A very evident 4-day rhythm in the female rat is associated with the period of ovulation; with the ovary removed, this activity practically stops. There are larger normal fluctuations in 90 to 120-day periods and in addition, about every 14 days there is a burst of activity and a marked increase in the consumption of food and water; with the pituitary stalk cut, this activity falls. With the thyroid removed, the rhythm is irregular but still present.

In human beings periodic activity is observed in the 6-month infant to coincide with gastric activity, and there is a definite rhythm in the hours of sleep. Some patients exhibit alternation of depression and normal or increased activity every other day, and in certain individuals a periodic change in the skin resistance can be observed at 10-day intervals, while in others cycles of activity occur every 30 days and in some patients cycles of over-activity lasting 6 months have occurred over a period of several years. With the activity there is a sense of well-being and ability to meet the problems of life.

2. The Mild Depressive Reactions.* **Roger S. Cohen, M.D.**

3. Encephalography; Its Diagnostic and Therapeutic Value. **Temple S. Fay, M.D.,** Temple University, Philadelphia.

The appearance of an organ is not always helpful in establishing its function, and this applies particularly to the brain. Encephalography and ventriculography were introduced by Dandy in 1918, especially for the diagnosis of tumors. Later, Bingel and Wartenberg used it in other diseases. Ventriculography of itself has a mortality of 12 per cent, but these are usually the bad cases. In 700 cases of encephalography 3 deaths have occurred in the author's hands, 2 of them due to ruptured aneurism. The brain differs from other organs in being enclosed in the bony casket, and the so-called fluid cushion is an incompressible one and not very satisfactory. This fluid is really a storage reservoir and its pressure may be reduced in amount by purgation, bleeding and sweating. The volume within the skull is fixed, and if a clot develops it will drive out first the fluid and then blood. Since degeneration begins within 90 seconds after arrest of the blood flow, and since the cortex is irreparably damaged by 4 minutes anoxemia, the maintenance of adequate circulation is imperative. Pressure readings tell little of the state of swelling of the brain, and fluctuations are common.

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* Published in full in this issue of the Annals.

In cases of cerebral injury, if the patients are placed on a dehydrating regimé from the beginning, 92 per cent are relieved in 3 months and 40 per cent are back at work in a year. Later on, if they break training and take large quantities of fluid their symptoms recur and they cannot work. Removal of the fluid increases the cerebral circulation as can be shown by compression of the jugular veins during spinal drainage. In normal cases 10 to 15 cc. can be withdrawn; in post-traumatic cases 20 to 40, or even 60 cc. may be removed. This fluid is stored within the cranial cavity and serves to compress the vascular bed. Epileptics apparently escape deterioration following encephalography and restriction of fluid intake. (Slides were shown demonstrating the circulation of the cerebrospinal fluid, the fluid spaces and the cortical pathways.) Normally there are no fluid pathways in the temporal and occipital areas; the cerebral atrophy in clinical epilepsy conforms to the hydraulic pattern. In internal hydrocephalus strangulation may occur at the incisura tentorii. In traumatic cases the dilatation of the fluid spaces is focal at first and later becomes more widespread. This results not only from the loss of brain tissue due to trauma, but to the atrophy of the brain compressed in a hydraulic cast. Encephalography decompresses the brain by removing this incompressible cushion, controls post-traumatic headache, toxemias and eclampsia, in all of which the spinal pressure may be low but the brain very swollen, and the circulation diminished. Patients suffering cerebral injury should have their weight reduced, since by this means they get rid of fluid and lower their intracranial pressure. If they remain hydrated, convulsions are apt to occur, whereas in such wasting diseases as tuberculosis, diabetes and cancer, convulsions are rare.

DISCUSSION

Dr. H. H. Schoenfeld: The results to be expected from encephalography and restriction of fluid are apt to be best in the traumatic cases but are also effective in certain other disorders, such as epilepsy and possibly cerebral thrombosis.

Dr. Claude Moore: The films shown by Dr. Fay are particularly excellent and reveal the need for expert technic and perfect coöperation among patient, surgeon and roentgenologist.

Dr. Temple S. Fay, in closing: In order to interpret encephalograms a rather intimate knowledge of the nervous system is important. Roentgenologists are coming to know their neuroanatomy, and further advances are to be anticipated. For instance, a center for gastro-intestinal motility has recently been found in animals, and injury to this area in man may lead to profound intestinal disturbances which may prove fatal. It is recognized that injury to the hypothalamus may be followed by duodenal ulceration, bleeding and death and it would seem possible that certain anxiety states with disorders of the intestinal tract might be due to affections in this region.

SECTION ON OPHTHALMOLOGY AND OTO-LARYNGOLOGY

Election of officers of the Section on Ophthalmology and Oto-Laryngology for the fiscal year 1934–35 resulted as follows:

R. S. Pendexter, Chairman
A. M. Zinkhan, Vice Chairman
Lyman B. Tibbets, Secretary
John H. Trinder, Treasurer

MEMBERS OF THE MEDICAL PROFESSION OF THE DISTRICT OF COLUMBIA WHO PARTICIPATED IN THE CONVENTION OF THE AMERICAN MEDICAL ASSOCIATION

Papers:

ARTHUR C. CHRISTIE. Radiation in Cancer.

GEORGE W. MCCOY. Prophylaxis of Amebiasis.

H. H. DONNALLY. A Study of Vaccination in Five Hundred New-Born Infants (Lantern Demonstration).

CLAUDE MOORE. Giant Cell Tumors: Their Pathology and Possible Etiology (Lantern Demonstration).

EUGENE R. WHITMORE. Hypernephroid Tumors of the Kidney (Lantern Demonstration).

PHILIP MATZ. The Pathology of Heart Disease in Veterans.

R. R. JONES. Symptoms in Early Stages of Lead Poisoning.

JOHN W. MILLER AND R. R. SAYERS of Washington, and WILLIAM P. YANT of Pittsburgh. The Response of Peritoneal Tissue to Dusts Introduced as Foreign Bodies (Lantern Demonstration).

JAMES P. LEAKE. Epidemiology: Epidemic Encephalitis, 1933 Outbreak.

WILLIAM P. HERBST, JR., opened the discussion on papers by Harry Culver of Chicago, entitled "The Importance of the Streptococcus in Genito-Urinary Disease;" Anson L. Clark and B. F. Keltz of Oklahoma City, entitled "A Simplified Treatment of Bacilluria;" and Albert M. Crance of Geneva, N. Y., entitled "The Necessity for the Standardization of the Treatment of Bacilluria (Lantern Demonstration)."

R. M. LECOMTE opened the discussion on paper by Stanley R. Woodruff of Jersey City, N. J., and H. C. Bumpus, Jr., of Pasadena, Calif., entitled "Does the Diagnosis of Unilateral Renal Tuberculosis Always Indicate Nephrectomy?"

JAMES P. LEAKE opened the discussion on paper by

Ralph A. Kinsella of St. Louis, entitled "Epidemic Encephalitis."

Wallace M. Yater opened the discussion on paper by Philip Matz, entitled "The Pathology of Heart Disease in Veterans."

Exhibits:

Exhibit on Encephalitis: Ralph C. Williams, Chairman; James P. Leake, member of Committee. The exhibit consisted of charts, specimens, talks and demonstrations.

James P. Leake. Epidemiology.

Charles Armstrong. Etiology.

Section on Practice of Medicine:

Wallace M. Yater and V. H. Cornell, Army Medical Museum. Lesions of the conduction system of the heart. Exhibit of colored plaques of microscopic sections through the conduction system at various levels. Photographs of salient electrocardiograms, roentgenograms, gross cardiac lesions and microscopic sections were shown of several cases of auriculoventricular and bundle branch block.

Section on Surgery, General and Abdominal:

Charles S. White, George B. Jenkins, and J. Lloyd Collins, George Washington University School of Medicine, Department of Surgery and Anatomy. Innervation of muscles of anterior abdominal wall. Exhibit of illustrations from dissections and operations.

Section on Laryngology, Otology and Rhinology:

Claude Moore, George Washington University Hospital. Tumors, polyps and cysts in the nasal accessory sinuses. Exhibit of roentgenograms showing tumors, polyps and cysts in the nasal sinuses. A large number of cases proved by iodized oil injection with roentgenologic examination with clinical data, operative procedures and other information.

Section on Pediatrics:

H. H. Donnally and Margaret M. Nicholson, George Washington University School of Medicine. Smallpox vaccination of new-born infants. Exhibit of colored, life-size drawings of three types of takes; charts and tables relating to methods of securing takes and covering a study of vaccination of a large number of new-born infants.

Section on Preventive and Industrial Medicine and Public Health:

R. R. Jones, United States Public Health Service. The lead hazard in industry and its control. Exhibits of charts and graphs showing the extent of lead compounds most commonly used and the solubility in the body fluids; recognized procedure for the control of industrial plumbism; demonstration of sampling apparatus by measuring the lead content in the atmosphere; demonstration and test for lead in human excreta and demonstration of blood films showing changes typical of plumbism.

Section on Urology:

W. Calhoun Stirling. Carcinoma of the prostate gland. Exhibit of photographs and specimens showing incidence, latest methods of diagnosis, symptoms, differential diagnosis, gross and microscopic anatomy, associated gross lesions, and all forms of latest recognized therapy.

Symposium on Amebiasis:

Army Medical Museum. Exhibit of photographs and photomicrographs showing endamoeba histolytica compared with other ameba; pictures showing histologic and pathologic phases of amebic dysentery compared with bacillary dysentery.

Educational Classification:

United States Pharmacopeial Convention. Exhibit showing the use of The Pharmacopeia in hospitals with emphasis on the use of U. S. P. drugs, chemicals, preparations and prescriptions.

Veterans Administration, Medical and Hospital Service. Clinical and postmortem observations in a group of veterans with cardiovascular disease.

MEDICAL SOCIETY OF VIRGINIA, MARYLAND AND THE DISTRICT OF COLUMBIA

The result of election of officers of the Medical Society of Virginia, Maryland and the District of Columbia for the ensuing year follows:

R. Arthur Hooe, President
William P. Herbst, Vice-President
Harry F. Davies, Recording Secretary
A. Magruder MacDonald, Corresponding Secretary
Robert Scott Lamb, Treasurer

WOMEN'S MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

The following officers were elected at the Annual Meeting of the Women's Medical Society of the District of Columbia:

Elizabeth Kittredge, President
Lucile Dooley, Vice President
Lillian Malone, Recording Secretary
Alma Jane Speer, Corresponding Secretary
Kate B. Karpeles, Treasurer

Dr. Edith SeVille Coale read a paper, entitled "Undulant Fever," at the annual meeting.

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III JULY, 1934 NUMBER 7

THE DIAGNOSIS AND TREATMENT OF FEMALE STERILITY*

JACOB KOTZ, M.D., F.A.C.S.

Clinical Professor of Gynecology and Obstetrics, George Washington University School of Medicine

During the past 15 years greater advances have been made in the diagnosis and treatment of female sterility than ever before. The main factors in our progress during this period have been:

1. The introduction by Rubin of a non-operative method for the determination of tubal patency. I consider this the greatest single contribution.
2. The post-coital examination as advocated by Huhner.
3. Our increased knowledge of the responsibility of the endocrines in functional sterility.
4. The influence of constitutional depression.
5. Introduction of sodium bromide by Kennedy and later (1922) of lipiodol by Sicord and Forestier for the purpose of locating the sight of tubal obstruction.
6. The excellent work done by Cary, Dickinson, Meaker and many others in adding greatly to our study of the subject by calling attention to the need for an orderly and complete investigation of the couple rather than the individual.
7. The placing of fallopian tube surgery on a scientific basis with results more than justifying the attempts in properly selected cases.

Formerly the treatment of female sterility was largely surgical. It consisted first of a dilatation and curettage or the use of a stem pessary followed by one or more dilatations and curettages. This procedure was followed by laparotomies for the correction of innocent misplacements and the probing of the tubal canal, which many times destroyed whatever chance the woman had for pregnancy. Amputations of the cervix and fancy plastic operations on the cervix were done. In many instances the competency of the husband was never studied.

Today the diagnosis and treatment of female sterility is largely a medical problem. Surgery still has its place, but the cases must be selected, and when this is properly done, one can hope for reasonable success.

One marriage in every 10 is childless; hence, there are in this country today nearly two million sterile couples who are still at the age of potential child-bearing. Unless the treatment of the sterile patient is soon crowned with success, she develops many neurological symptoms. In many cases it becomes the outstanding sorrow of a lifetime. Successful treatment depends upon an accurate diagnosis. It is usually difficult to discover the etiology.

In 1924 and again in 1925 I outlined a detailed method of studying the sterile patient. I should like to review briefly the systematic steps employed in the light of present-day knowledge:

1. A careful history, which should include such information as to the previous existence of scarlet fever, mumps and appendicitis; and if appendicitis, was it acute or chronic? In over 70 per cent of patients with a history of chronic appendicitis the tubes were found closed. We must discover, if possible, information about previous venereal infection, abortions, operations

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* Read at the Annual Scientific Assembly of the Society, May 2, 1934.

and the duration and type of contraceptives used.

2. The routine physical examination in addition to a complete pelvic study to eliminate a small percentage of women because of the presence of gross pathology which precludes pregnancy or which renders pregnancy a dangerous complication. These cases are at once ruled out since they do not belong to the sterility problem.

In those patients who have a cervical infection, it is first cured by conservative cautery treatment. Then we proceed with the following special examinations:

1. The Rubin test for tubal patency.
2. Post-coital examination as outlined by Huhner.
3. Basal metabolism test.

Should the above examination fail to disclose the etiological factor or factors, the following studies are carried out:

1. Frank and Goldberger test for ovarian function.
2. Fluhmann test for pituitary function.
3. Examination of endometrial curettings for the premenstrual stage.

The Rubin Test

Rubin deserves credit for having made the greatest single contribution, not only to the diagnosis, but also to the treatment of female sterility; for in a very few minutes one can determine accurately and scientifically patency or non-patency of the fallopian tubes. This is done without great inconvenience to the patient and without an anesthetic. The test should be done about 7 days following the cessation of the menstrual period. In the event the tubes are found closed, it should be repeated twice, and if they still remain closed lipiodol can be used to record roentgenographically the site of obstruction. I have, therefore, limited the use of lipiodol to those cases in which the tubes were shown to be closed by 3 tests performed at monthly intervals 7 days following cessation of the menstrual period, to determine the exact site and type of closure. Fortunately, the vast majority of patients whose tubes are found closed are successfully opened by the Rubin technic alone.

Post-Coital Examination

One of the oldest methods of determining the fructifying ability of the male is the examination of a condom specimen. There is no doubt that it gives valuable information, but with the Huhner test one can determine the vitality of the husband's semen in the genitalia of his wife which in itself is of the most important practical diagnostic value. Time will not permit a description of this test, but a wealth of information is obtained within a few minutes. We no longer consider the position of the cervix as important when live or active sperm are found in and about the cervical canal. Likewise, we no longer worry about vaginal or cervical secretions being harmful to the male cell when they are found in large number and are active. If the post-coital examination is not satisfactory a condom specimen is requested, and if it contains dead spermatozoa, one knows at once that the fault lies with the husband. If the spermatozoa are alive, then the female secretions have been responsible for destroying them. Should the male cells be found deficient in quantity and quality, a urologic examination is advised.

Endocrine Causes of Sterility

In cases of Grave's disease or in cases of myxedema conception is rare. For the past 12 years the basal metabolism test has been done routinely in my office in all cases of sterility. Without quoting a lot of figures which would make this paper too lengthy, the conservative statement that at least 10 patients a year have become pregnant who probably otherwise would have remained sterile can be credited to thyroid therapy given to those patients in whom a deficient thyroid function was the only finding.

There still remains a large number of women in whom the sterility problem is not solved, and this brings us to the more recent advances in endocrinology. The Frank and Goldberger test for ovarian function compares almost as favorably in its efficiency with the basal metabolism test in thyroid function.

The Fluhmann test for pituitary hormone study is based on the principles of the Aschheim-Zondek test for pregnancy.

The examination of curettings in menstrual disorders and in sterility is of much diagnostic importance, since it gives us a reliable index of ovarian function. As a result of the information obtained from the above outlined tests one can arrive at a reasonable conclusion as to the functional disturbances of a given case.

The steps outlined constitute a fairly complete survey. The ovarian, the pituitary functional test and the diagnostic curettage are done only when the history and physical examination suggest their indications.

TREATMENT

I have already stated that success in treatment depends upon an accurate diagnosis. As a result of our study of the sterile couple we frequently find not only one but several causes, any of which by itself is sufficient to be responsible for the existing sterility. When multiple causes are found we attempt to correct all of the conditions that are unfavorable to the fertility. Frequently by the removal of 3 of the 5 suspected causes pregnancy will occur.

Animal breeders know that certain animals make good breeders while others are very poor ones. So in the treatment of sterile patients, we recognize certain types in which pregnancy is less apt to occur than in normal woman.

The infantile, the neuter, the virile, the acromegaloid, the Fröhlich and the thyroid types (of which there are 2 varieties, the hyper- and hypo-functional) all present some form of menstrual disturbances. In many of these cases relative sterility is observed.

Amenorrheal and irregularly menstruating women are admittedly of low fertility. They are frequently associated with obesity. The disturbed ovarian and pituitary functions are usually in the direction of a hypo-function, and since the pituitary controls ovarian function it is often the seat of the primary deficiency. It is certainly reasonable to suppose that the woman who menstruates regularly has a better chance of conceiving than the woman who menstruates once in 6 months, and the longer the periods are delayed the greater is the percentage of sterility.

Organotherapy, as formerly used, certainly had little or no effect. The work of Frank and Novak proved that organ extracts possessed very little of the necessary hormones and that they were very readily destroyed by the gastric juices. In the last few years a number of preparations prepared according to more recent pharmacologic methods are offering better prospects of success. I refer to folliculin, theelin, prolan and antuitrin S. The use of endocrine preparations in the treatment of amenorrheal and irregularly menstruating women has been far from satisfactory. Van der Velde in 1915 began to irradiate the ovaries in cases of amenorrheal and scanty and irregular menses. The value of X-ray therapy in these cases is unquestionable. Since Zondek has proved without a doubt that the anterior lobe of the pituitary gland controls ovarian function, it has been my custom to recommend X-ray therapy to the ovaries only when they were found to be enlarged and cystic; otherwise, it is applied to the pituitary gland. In a series of 29 sterile patients in whom prolonged periods of amenorrhea was an outstanding complaint, 16 have been delivered of full-term infants, 4 of the group having been delivered twice. Thyroid therapy in those cases showing low basal metabolic rates, and the administration of potent ovarian and pituitary preparations should increase our percentage of successful results provided these preparations are administered when they are physiologically needed. Foci of infection should be removed, since they play an important part in reducing the vitality of the individual and in some cases have an important bearing on the sterility. Secondary anemia should receive appropriate treatment. Sex life should be regulated in those cases in which there exists sexual excesses.

Endocervical infection, when mild in degree, is best treated by linear cauterizations. When the cervical infection is more extensive, coring out of the diseased tissue with the cautery or the Sturmdorf operation is the procedure of choice. Pelvic inflammatory disease and pelvic congestions must receive appropriate treatment by the use of diathermy and bathtub douches. Galvanism is a valuable aid in the treatment of the infantile uterus. When the male cells are deficient in quantity and quality, the husband should receive appropriate treatment. The presence of an uncomplicated retroversion of the uterus does not call for surgical correction, but when fibroids are present myomectomy will often be beneficial.

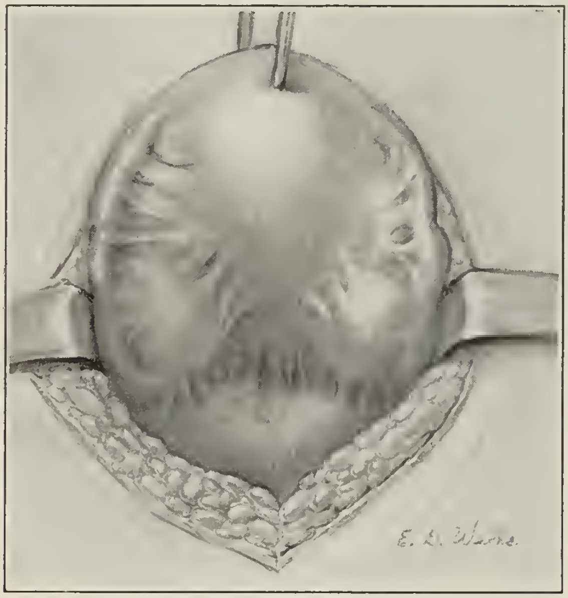

Fig. 1. Condition of Pelvic Organs in Illustrative Case of the Author

Tubes adherent to uterus, ovaries and sigmoid. Obstruction at the fimbriated ends due to adhesions.

Obstruction of the tubes was found in 54 per cent of patients that applied to my office for the relief of sterility. In the majority of these cases the obstruction was overcome by the use of the Rubin tubal insufflation method, in others by the combined use of the Rubin technic and the injection of lipiodol. Lipiodol is thought to have some therapeutic value by the slow liberation of iodine.

In a small percentage of patients it was impossible to overcome the obstruction, and it is in this type of case that plastic tubal surgery is indicated. It goes without saying that the husband should be thoroughly investigated, and the tubal obstruction should be the only major cause that prevents pregnancy. Patients should be told that a plastic operation can be done but that this does not necessarily mean that pregnancy will follow. They will at least be in a condition in which pregnancy may occur. In the past, plastic operations on the tubes for the relief of sterility have not been very successful, largely due to uncertainties in diagnosis, but with the aid of our modern diagnostic methods there need be no doubt as to the site of the obstruction. The greatest percentage of obstructions is found at the fimbriated end. Martin of Berlin, in 1885, was the first to incise the

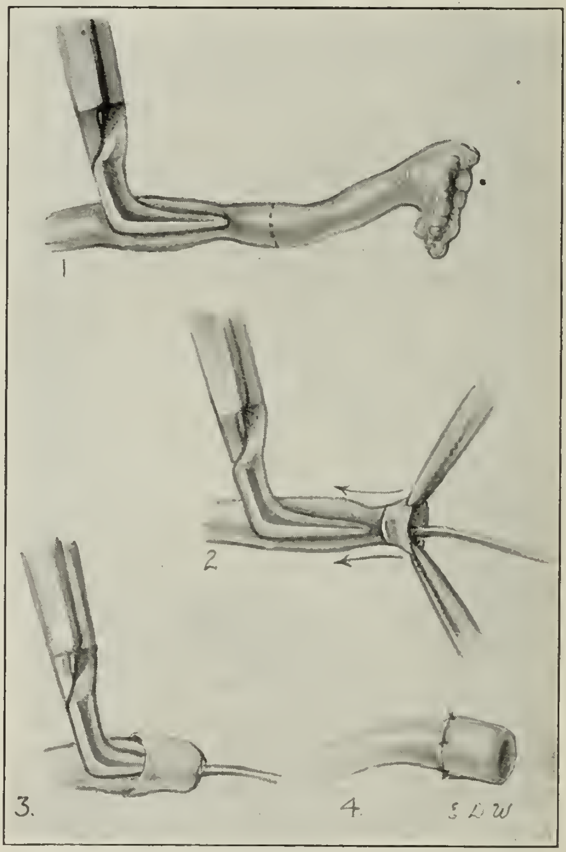

Fig. 2. Bonney Circumcision Operation as Performed in Author's Case Shown in Fig. 1

1. Amputation of outer third of tube.
2. Insertion of silk bougie, application of Bonney clamp and circular incision through the muscularis.
3. Turning back of cuff over clamp with eversion of tube.
4. Cuff anchored to serosa with four 00 chromic catgut interrupted sutures.

closed fimbriated end and suture the tubal mucosa to the peritoneum. The operation never became popular, and in 1911 when Gellhorn reported a successful case, he found only 13 cases reported in the literature of the world. I have performed 36 plastic operations on the tubes with 12 patients having full-term pregnancies. One patient had an ectopic pregnancy, but I warned her of its possibility since the only tube that she had was only partially open. Inflation of the remaining tube was advised but was not done. I should like to mention briefly 2 operations on the tubes, which in my opinion are perhaps the best plastic tubal operations so far devised.

1. The Bonney circumcision operation when the obstruction is located in the outer third of the tube (Figs. 1 and 2).

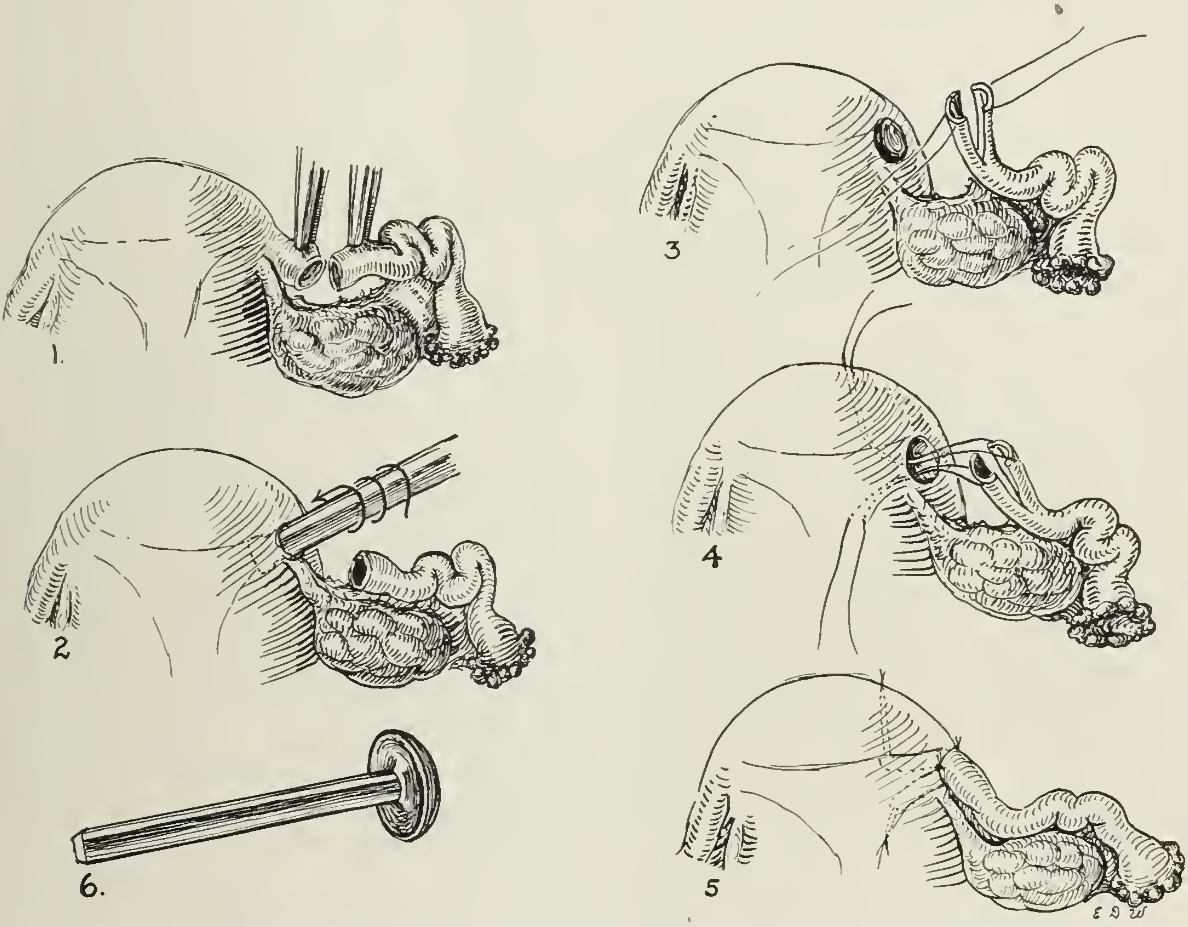

FIG. 3. HOLDEN AND SOVAK OPERATION FOR OBSTRUCTION AT THE UTERINE PORTION OF THE TUBE

1. Amputation of tube, proximal to site of occlusion. Site of amputation of tube previously determined by intra-pelvic insufflation.
2. Reamer applied over occluded stump of tube. Tube and its intramural portion reamed out by circular movement of instrument.
3. Patent portion of tube bisected longitudinally, and 00 chromic catgut sutures applied to superior and inferior ends.
4. Bisected portion of tube now fixed in its new position as indicated in drawing.
5. Relation of tube and ovary to uterus after sutures have been tied. Two supporting sutures have been passed through the serosa of both tube and uterus.
6. Reamer.

2. The implantation operation devised by Holden and Sovak when the obstruction is located in the inner two-thirds of the tube (Fig. 3).

Post-operatively it is advisable to insufflate the tubes from one to several times to be sure that patency is maintained. It has been my custom not to insufflate these patients sooner than 4 weeks following operation.

Occasionally one sees a patient who desires to become pregnant above everything else. Her general condition insofar as one can determine is satisfactory, and her husband is competent, but there is present a pelvic inflammatory disease for which operation is necessary. When the abdomen is opened one finds that both tubes and one ovary must be removed, but the remaining ovary seems in good condition. I shall mention briefly an operation devised in 1908 by Petit of Paris and reported for the first time in 1922. The operation is called uterine transposition of the ovary with conservation of its vascular-nervous pedicle. Petit reports several successes in regard to the persistence of normal menstrual periods and also in regard to pregnancy. I have performed this operation twice, and both of these patients are menstruating normally. So far, pregnancy has not occurred.

In the short time allotted to me I have attempted to briefly outline a complete method for examining the sterile patient. In spite of all the available methods for the diagnosis and treatment, there still remains a small percentage of patients in whom we are unable to explain the reason for the existing sterility. With improvements that will be developed in the not too distant future, our percentage of good results is bound to increase.

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PERIPHERAL NEURITIS[*]

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Neuritis is apt to be thought of by the practicing physician as a long-lasting painful disorder affecting neuropathic women. If heat, aspirin, amidopyrine and other remedies fail he may call the pain imaginary. In reality, however, it is the neuritis and not the pain that is imaginary. If the physician will examine these patients with greater care and thought, he may be forced to revise his opinion, since the common complaint of pain in the arm, neck or leg is usually due to arthritis, myositis, bursitis, or some other affection of the neighboring tissues, not primarily neuritic, but only secondarily involving terminal nerve filaments. That great teacher of surgery, the late John B. Deaver, used to say: "Pain is the language of a suffering nerve." In doing so he was undoubtedly correct, but by emphasizing the phenomenon pain, he probably distracted attention from a number of primary affections of the peripheral nerves quite different from the medical and surgical conditions he was visualizing.

Peripheral neuritis occurs in such diverse affections as leprosy and lead poisoning and Landry's paralysis. Moreover, it is not such a trifling condition nor so protracted as it is commonly pictured. Deaths not infrequently occur in the more severe forms. The entire evolution of a typical neuritis may be entirely painless and of only a few days' duration. The affection may be confined to a single nerve—indeed, to the most terminal filaments of a single nerve—or it may involve practically every nerve in the body. It may pass off without residuals, or it may leave the patient permanently crippled. The infection of the peripheral portions may be followed by extension of the virus along the course of the axone, as in the case of rabies, as far as the spinal cord, and there give rise to a rapidly progressive fatal encephalitis. The toxins of tetanus and of diphtheria probably reach the central nervous centers in the same way.

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[*] Read at the Annual Scientific Assembly of the Society, May 3, 1934.

The subject of multiple neuritis is a timely one. During this past winter the city of Washington has been visited by a small epidemic of peripheral neuritis of a character somewhat like that described in the past by Graves, by Bradford, and by Kennedy, and so interestingly portrayed by Collier in his recent Morison Lectures. It has been my fortune to observe several of these cases, and to learn of others. In addition, the toxic polyneuritis due to alcohol is still among us, and that of jamaica ginger is of recent memory. The paralyses and sensory disturbances following spinal anesthesia are appearing more frequently as the result of increased use of this form of surgical preparation, and traumata to nerves are very commonly observed in this day of fast transportation and flying glass. On the whole, therefore, the subject of peripheral neuritis may have a somewhat broader significance than that rather trivial malady, the "neuritis" which never gets the physician out at night, never causes death, and never gets well.

Several broad principles may be indicated at the outset. In the first place, pain is a very variable phenomenon. Pain apparently depends upon the reactive inflammation found in the nerve sheath and in the terminal filaments of the nerve, and is apt to be absent when the inflammatory manifestations are slight. Pain is severe in some of the infectious polyneuritides as well as in some of the toxic ones, but there is no unbreakable rule. Pain is usually severe in alcoholic neuritis and mild or absent in lead neuritis, but the reverse conditions may be found. In the second place, weakness is always present, provided only that the nerve affected is one that carries motor fibers. In addition to the weakness, however, spasm is very apt to occur, varying from the fibrillary twitchings consequent upon a sudden blow on the elbow to the massive cramps observed in local tetanus. A third feature to be emphasized is the objective sensory changes in neuritis. The severity of these alterations is dependent upon the nerve involved, and upon the type of involvement, since, as a rule, the sensory elements are more resistant to degeneration than the motor. In certain cases of acute multiple neuritis objective sensory changes are minimal if not altogether absent.

PATHOLOGY AND ETIOLOGY

The time-honored separation into parenchymatous and interstitial neuritis is worthy of preservation, although transitional forms are plentiful. In both types there is more or less change in the axones and their neurilemma sheaths. In the interstitial forms, reactive inflammation is present in the perineural tissues, while in the parenchymatous forms there is much less inflammatory infiltration. As a consequence, the parenchymatous types are apt to be less painful than the insterstitial forms, but more commonly associated with motor and sensory loss. Further division of neuritis into infectious and toxic is also time-honored, but perhaps less worthy of preservation, unless a third group relating to the deficiencies be included. Moreover, the toxic nature of the changes in such well-defined infectious diseases as tetanus and diphtheria must be recognized. The polyneuritis of beriberi is one of the most characteristic of the deficiency diseases, but in many cases of alcoholic polyneuritis the symptoms seem to come not so much from the abuse of alcohol as from the lack of some of the accessory food factors that are not found in the "coffee-and-doughnut" diet of the chronic alcoholic. Just recently I have observed a periodic drinker who called for help when his legs gave way and was probably saved from serious trouble by immediate institutions of a diet very rich in vitamins. The neuritis continued to improve in spite of 2 alcoholic relapses in the succeeding month. It is not so certain whether neuritis is a significant feature in scurvy, but there is little doubt of its presence in pellagra.

The intimate relationship between a virus and the nerve fiber has been emphasized repeatedly. In herpes zoster, for instance, the whole cutaneous area supplied by the nerve becomes peppered with vesicles. Experimentally, moreover, it has been shown that the virus of poliomyelitis travels in the axone itself, and also that rabies virus must gain access to the nerve fiber before it can take hold. The perineural lymphatics will not carry the virus. If a somewhat attenuated rabies virus is roughly introduced anywhere, it inevitably leads to the disease, whereas if it is injected with extreme gentleness even into the nerve trunk itself, it may not cause the disease. Interruption of the nerves to the inoculated part will prevent the development of the disease. The same axonal transmission of the toxin probably takes place in tetanus. In leprosy the advance of the bacilli along the nerve fibers by way of their lymphatic sheaths is well established, and bacilli have been demonstrated within the nerve cells of the spinal ganglia.

Infectious Polyneuritis

There is a group of infectious polyneuritides that deserves special consideration on account of its peculiar character and unknown etiology. Only in the epidemic studied by Bradford, Bashford and Wilson has anything like an etiology been worked out, other investigators having met with failure in attempting to reproduce the disease serially in animals by virus inoculations. The onset is generally febrile, possibly following a recognized infection, more often a case vaguely diagnosed as "flu" or grippe. Without much pain in a majority of cases, but with cramps or muscular fibrillations, paralysis begins rather rapidly in the lower limbs, extends to the trunk so that the patient cannot turn over in bed, and involves the arms. Only rarely are the respiratory muscles involved to any great degree, but the cranial nerves are often affected. The facial nerve may be paralyzed on both sides at once as in the cases observed by Kennedy, or the extra-ocular muscles, as emphasized by Collier. Flaccidity of muscles with loss of reflexes is often accompanied by little or no pain, except, perhaps, for some tenderness on pressure. Even the finest tests may fail to disclose sensory alterations, and the bladder and bowel are unaffected. This picture in certain cases may imitate realistically the acute ascending paralysis described so graphically by Landry in 1859, but in other instances the paralysis may begin at the top and go downward. The only condition with which this could be confused is poliomyelitis, and in that disease the patient is much sicker and does not recover so promptly or so completely (provided he does recover) as is the case in acute neuritis. A peculiar feature in some of these cases is the presence of a deeply xanthochromic spinal fluid without much cellular reaction. Incidentally, this particular syndrome has probably the best prognosis of all, while a clear acellular fluid often means more in terms of later trouble. As a rule, the neuritis resolves so rapidly that there is little time for atrophy to develop, and in some instances it seems as if the virus must produce an entirely temporary block without actual degeneration, since atrophy does not occur and the reaction of degeneration is absent. In other instances, however, and especially if the neuritis recurs, atrophy is likely to take place. Upon recovery, however, the legs fill out much more rapidly than they would if complete neural regeneration were required. In those cases of generalized peripheral neuritis with involvement of the cranial nerves the course of the affection is apt to be somewhat prolonged and complicated. I have observed one young girl in whom the double facial palsy was followed by generalized neuritis and by focal granulomas in the iris that were mistaken for tubercles. Rapid and complete recovery took place.

Infectious neuritis limited to one or a small number of nerves offers a good prognosis, although considerable time may be required for its subsidence. Ordinary Bell's palsy is usually thought to be of this origin, although the frequency with which this condition is observed on the left side in those who drive automobiles in cold weather has given rise to the concept that chilling the nerve near its exist from the foramen may be the cause. It is believed, however, that cold is only a contributing factor in these cases, permitting the virus to gain access to the nerve. Inflammation of the sciatic nerve may also be of the infectious type, although many other local conditions such as spondylitis, myositis, and pressure upon the nerve or its roots may give rise to the same symptoms. The nerves of the upper limbs are less prone to involvement in primary infectious conditions, although so-called rheumatic states may be accompanied by paralysis of a single nerve, such as the circumflex, or of the whole brachial plexus. Contrasting the local infectious neuritis with the generalized type one might say that the former is generally associated with much more pain, the only exception being the neuritis of the facial nerve which carries very few sensory fibers. Sometimes herpes zoster affects the geniculate ganglion and causes facial paralysis, and with it pain in the ear and an eruption of vesicles about the external auditory meatus.

Toxic Polyneuritis

The common causes of toxic neuritis are alcohol and lead, but any of the heavy metals may cause it, as well as a number of organic compounds. The proof of the etiology in obscure cases is often a matter of great difficulty. The distribution of such a toxic neuritis is apt to be more symmetrical, the condition of more gradual onset and recovery, and the objective manifestations more severe. The patient may complain of pains or paresthesias in the hands and feet, 'or weakness may make its appearance without these symptoms. A period of increased tendon reflexes may precede the disappearance of the jerks, and the return of these signs is a good omen. Sensory disturbances are apt to affect the distal portions of the limbs and to apply to all forms of sensibility, but particularly to light touch. The most extensive epidemic of toxic neuritis was observed during 1930 when a chemist having more regard for the rule of gold than for the golden rule discovered that tri-ortho-cresyl phosphate had physical properties closely similar to ginger extract, and proceeded to adulterate this product on a wholesale basis. Probably some 30,000 cases of paralysis occurred. The paralysis affected the hands and feet, the motor functions more seriously than the sensory, and they cleared up with extreme slowness, causing unnumbered family tragedies and a real drain upon municipal resources. With the passage of years most of these cases have regained useful limbs. Whether the recent epidemic of apiol poisoning in Europe is of the same causation is not entirely settled, but many an unfortunate young woman taking ergo-apiol to produce abortion has been stricken with an exactly similar type of indolent distal paralysis.

Nerve paralyses following spinal anesthesia are coming into considerable prominence. Why the abducens nerve should be affected above all others is not understood, but it is by no means the only nerve to be involved. That some of the effects may be lasting is indicated in the case of a man observed recently at the Gallinger Neurologic Conference. This patient had suffered a hemiplegia on the left side, which cleared up in due course, but a paradoxical finding was objective diminution of all forms of sensation in the opposite lower limb. The history brought out the fact that 2 years previously he had been subjected to spinal anesthesia for herniotomy, and we attributed the peculiar alterations to this occurrence. Paralyses following spinal anesthesia clear up fairly rapidly, as a rule, and do not give rise to much pain, but the introduction of more irritating substances into the lumbar sac may prove disastrous. This is particularly true of arsenical compounds, but I have seen aggravation of tabetic pains and urinary retention follow the intraspinal injection of magnesium sulphate.

Whether the paralyses and other manifestations that occasionally follow the injection of immune sera should be considered as due to the serum itself, to the disease for which the injection was made, or to some favoring action by the serum on a neurotropic virus is not altogether established, and probably varies from case to case. It is said that post-diphtheritic paralysis became more frequent following the introduction of serum, but this was probably only because many lives were spared, the little patients suffering paralysis rather than death. The prevalence of local paralyses close to areas of wound diphtheria seems to prove that diphtheria toxin is the real cause of the paralysis. In cases in which paralysis of the circumflex or other adjacent nerve follows introduction of anti-tetanus serum into the arm the case is less clear, but again, such cases are much less common than those in which paralysis of one of the extra-ocular muscles follows such injection.

PRESSURE NEURITIS

Pressure sufficiently severe and sufficiently long is apt to bring about manifestations of neuritis. Often some peculiarity of nerve location must be a deciding factor. A waiter, for instance, who had to carry heavy trays of dishes with one hand, developed pain, weakness, atrophy and sensory disturbances in the hand. A laundry worker suffered backward dislocation of the wrist with subsequent sensory disturbances in the median nerve distribution. Three men, one of them an esteemed surgical colleague, suffered bilateral ulnar neuritis from having their wrists strapped too tightly to the operating table. Atrophy of the hands was ascribed to pressure on handlebars during the bicycle craze. I have observed 3 cases of compression of the peroneal nerve between the knee and the head of the fibula from sitting too long at a desk with the knees crossed. These cases all occurred in young women who were apparently barred from the masculine privilege of placing their feet on the desks. The outlook in all of these pressure cases is generally satisfactory except when compensation factors enter.

TREATMENT

The prognosis in almost all cases of neuritis is good. Indeed, the practice of neurology would be quite discouraging if it were not for the benignity of this common affection. The cause is rarely difficult to determine, although exceptions must be noted. The treatment is also relatively simple. Local conditions that favor the persistence of neuritis, such as pressure, or awkward positions, should be relieved. Causative or contributing factors such as alcohol, lead or other poisons should be eliminated. Particularly important under such a heading is the treatment of focal infection, since it has been shown quite clearly that certain varieties of streptococci have a definite affinity for the peripheral nerves, and the removal of teeth or tonsils may have a specific effect upon a local infectious neuritis. The beneficial effects may be delayed, however, and sometimes there are multiple foci that cannot be eradicated.

In every case of neuritis it is important to give the nerve protection by means of accessory food factors. Therefore, cod liver oil, orange juice in large quantities, and particularly yeast, should be added to the diet. Liver therapy serves to reduce the neuritis that accompanies pernicious anemia and clears up the paresthesias. Reduced iron in gram doses after meals is effective in the secondary anemias that often accompany focal neuritis. A bitter tonic may increase the appetite in an individual harassed by constant pain.

Rest for the painful part is essential in some cases, but should not be enjoined to the extent of immobilization since this might be complicated by subsequent arthritis and contracture. Usually the patient feels better when the part is moved, so that light massage with passive motion 2 or 3 times a day is desirable. Heat is practically always agreeable and may be used in various ways, as by radiation, diathermy and hot bottles. The skin cautery along the course of the nerve was used extensively by older writers, but I have seen no great benefit from this or from vesication. When exposure is followed by pain in the mastoid region, however, a blister may prevent the development of facial paralysis. Roentgen irradiation is practiced with occasional brilliant success for sciatica, and may be tried in other parts of the body.

As a rule, painful neuritis requires local measures as well as general; therefore, the large array of therapeutic possibilities. The vigorous procedures such as nerve stretching and nerve injection have gone out of vogue but may be useful in protracted cases. Caudal epidural injection of saline solution or of dilute novocain solution may be strikingly beneficial in sciatic neuritis, but should be given up if results are not forthcoming after 3 or 4 trials. Surgical attack on the nerves is generally unsatisfactory not only because of the impairment of function, but also because of eventual recovery without operation. Avulsions are best reserved for neuralgias, but I have seen a satisfactory result follow resection of the external cutaneous nerve of the thigh in a case of rebellious meralgia paresthetica. The nerve was located too close to the sartorius tendon for comfort.

Sedatives and antispasmodics are useful in neuritis. The salicylates enjoy a time-honored position in this regard, as well as amidopyrine. Barbital derivatives to quiet the restlessness and induce sleep will often make the former more effective, and delay or replace the exhibition of opiates. Morphine derivatives should be used with caution if a protracted course is expected, but they may be used freely when the pain is unbearable.

The generalized peripheral neuritis first described needs only careful nursing, as a rule, since the organic functions are not impaired and since pain is not an exhausting phenomenon. In some instances of the Landry type grave fears may exist for life, and such patients should receive the benefit of the respirator, since these patients recover if they can be kept alive during the critical period. Tube feeding may be necessary to avoid aspiration pneumonia. In 2 cases I have seen the tide of paralysis turned by the administration of serum from recovered cases.

The physician, as well as the subject, must be patient in these cases of neuritis. Even the rebellious and exquisitely painful neuritides described by Weir Mitchell as causalgia recovered in due time, and most of the jake paralysis cases are back on their feet. Only rarely does a facial paralysis turn out so severely that facial symmetry is forever spoiled. Generally in the acute cases it is safe to prophesy an illness of 2 months, although in sciatica it is often 6 months or more. When nerve degeneration has taken place the period may be estimated roughly by the distance to be covered from the point of degeneration to the periphery. Nerve fibers regenerate about as fast as the hair grows, a millimeter a day, so that 4 years must be allowed for an entire new sciatic nerve to come into being. In such chronic conditions, therefore, the physician is often at his wits' end to think up something new to do for the patient, and this is probably the reason that so much benefit, both to the physician and to patient, is secured from a visit to some medical resort, particularly to warm springs. The easing of the emotional tension engendered by a long painful illness may easily be followed by rapid subjective and objective improvement, aside from any miraculous qualities of the water itself.

THE TREATMENT OF URINARY INFECTIONS BY THE KETOGENIC DIET*

William D. Goodman, M.D.

The ketogenic diet is nothing new in the practice of medicine. It has been in use for over 10 years for the treatment of epilepsy. However, its application in combating urinary infections is comparatively new, and for that reason I am prompted to bring the subject to your attention. Due credit must be given Helmholz and Clark for applying the ketogenic diet in this manner. It is interesting to note that its value was discovered by pure accident. To quote Helmholz: "a chance observation of a specimen of urine from a patient on the ketogenic diet for the treatment of epilepsy showed it to be clear and apparently unspoiled after standing in a warm room for about a week." It seemed possible that patients in ketosis excreted bactericidal urine.

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* Read before the George Washington University Medical Society, April 21, 1934.

Enthused by this observation he decided to study further the urine from epileptic patients on the ketogenic diet to see if his observation was of any value. He found the pH varied from 5.8 to 4.8 and that this urine was both bactericidal and bacteriostatic. It was at first believed the hyperacidity produced this bactericidal action, but this fallacy was shown by further experiments on normal acid urine from patients not on the ketogenic diet. Therefore, it has proved that patients in ketosis excreted urine which was highly acid and had some substance or substances giving bactericidal powers. These substances have been called ketone bodies and probably are diacetic acid and beta-oxybuturic acid in the light of present findings. Without further introductory remarks I shall present the essence of the procedure as follows:

Types of Cases in Which the Ketogenic Diet Is Indicated

1. Initial or recurrent acute pyelonephritis or cystitis without acute obstruction.
2. Chronic urinary infection without demonstrable gross pathologic changes.
3. Chronic urinary infection associated with pathologic change demonstrable by roentgenography, urography or cystoscopy.
4. Urinary infection following operations.
5. Preliminary preparation for certain urological operations.
6. Urinary infection following instrumentation, such as the passing of catheters, sounds or cystoscopes.
7. Urinary infection following gonorrhea.
8. Urinary infection in the presence of inoperable neoplasms.
9. Urinary infection in the presence of anomalies.

Symptoms of Urinary Infection

1. Burning on urination.
2. Frequency and urgency of urination.
3. Tenesmus and strangury of the bladder.
4. Pain in the kidney region with pyuria or hematuria.

Diagnosis Made by the Following Technic

1. Catheterized specimen in female, second urine in male.
2. Cloudy or hazy urine not clearing on the addition of nitric acid.
3. Microscopic examination of urine sediment with the use of the stained or wet slide.
4. Culture of the urine to determine whether coccoidal or bacillary type of infection is present, Endo's medium being used for bacilli, blood agar for cocci.

Treatment

1. Ketogenic diet to produce ketosis, usually for 12 to 21 days.
2. This is a strictly quantitative diet figured as follows: 16 calories to each pound of body weight. For example, a person weighing 150 pounds to have 2450 calories per day, as follows:

Carbohydrate	20 gm. (×4)	=	80 calories
Protein	75 gm. (×4)	=	300 calories
Fat	230 gm. (×9)	=	2070 calories
	Total		2450 calories

Success of Diet Depends upon the Following

1. Proper coöperation between patient and doctor.
2. pH of 5.3 or less, and to insure this give:

℞ ammonium chloride, 12 drams
aqua pura q.s. ad., 16 ounces
Sig. 4 drams 4 times a day

3. Daily test of pH and Gerhardt's test for ketone bodies; ketosis should appear before 12 days.

4. Normal amount of exercise.
5. No increase or decrease of fluids.
6. Brewer's yeast or haliver oil capsule with viosterol daily.
7. Treatment of other foci, i.e., teeth, tonsils, sinus, prostate, etc.
8. Avoidance of constipation.

DETAILS OF A KETOGENIC DIET OF 2500 CALORIES FOR A PERSON WEIGHING 150 POUNDS, FOR HOME USE

Carbohydrate, 20 gm.
Protein, 75 gm.
Fat, 230 gm.

Food allowance for 1 day:
  Butter, ⅕ lb.
  Meat, 4 oz. (tenderloin steak, pork chop, lamb chop, baked ham; helping of any 2 to equal 4 oz.).
  Cream, 8 oz.
  Bacon, 4 strips.
  Eggs, 2.

Soya bean muffins 3 a day to take the place of bread, 1 each meal, or 6 slices of gluten bread a day.

Vegetables (5 per cent carobohydrate), i.e., greens.
2 Teacupfuls of any 2 vegetables per day.

Spinach, kale, cabbage, lettuce, string beans and cauliflower.
Tomatoes, celery, cucumbers and radishes.
Normal helping twice daily.
Also cream of celery soup and cream of tomato soup.

Tea and coffee sweetened with saccharine, ¼ gr.
Brewer's yeast, teaspoonful 3 times a day or 1 haliver oil capsule with viosterol twice daily.
Water as usual (no increase or decrease).
Normal amount of exercise.
Important: *No additions.*

APPARENT REASONS FOR FAILURE

1. Poor renal function.
2. Failure of ketone bodies to appear in urine.
3. pH not below 5.3.
4. Failure of patient to tolerate or coöperate on diet.
5. Possible failure to locate other foci of infection.

RESULTS OF 30 CASES TREATED

ORGANISMS	SATISFACTORY RESULTS	UNSATISFACTORY RESULTS	SYMPTOMS RELIEVED	PERCENTAGE OF CURES
B. coli, 25 cases	20	5	24	80
Coccoidal organisms, 5 cases	2	3	3	40

FIVE OUTSTANDING CURES IN THIS SERIES OF 30 CASES

NUMBER	AGE	DURATION OF ILLNESS	DIAGNOSIS	TYPE OF ORGANISM	DAYS ON DIET	LOWEST pH	RESULT
	yrs.						
1	34	4 yrs.	Chronic pyelonephritis; cystitis; prostatitis	B. coli	9	5.1	Negative culture; symptoms relieved
2	36	2 yrs.	Polycystic kidneys	B. coli	30	5.2	Negative culture
3	52	10 yrs.	Cystitis; prostatitis; chronic epididymitis	B. coli	10	5.1	Negative culture; symptoms relieved
4	24	8 mos.	Chronic gonorrhea with prostatitis	Gonococci, B. coli	14	4.8	Negative culture; urine clear; pus-free
5	62	3 yrs.	Prostatitis with residual urine of 180 cc.	B. coli	10	5.1	Negative culture; symptoms relieved; residual, 30 cc.

SUMMARY

1. This is a quantitative diet.
2. Fluids should not be forced.
3. The diet succeeds better than urinary antiseptics.
4. The diet is a treatment not lasting over a long period of time.
5. The urine should always be cultured first.
6. Readings of urine must be done every other day for pH and ketone bodies.
7. The pH must be below 5.3 for results, and ketone bodies must be present in the urine; Gerhardt's test is used for determination of acidity.
8. The ℞ of ammonium chloride must be given with the diet.
9. Ketosis is not acidosis from a pathological viewpoint.

10. The treatment is adaptable to children as well as to adults.
11. It succeeds when other methods have failed.
12. Success depends upon coöperation; 50 per cent coöperation means 50 per cent results, etc.
13. Acute and chronic bacillary infections respond better than coccoidal infections.
14. The diet is best carried out in the hospital, nursing home, or under the supervision of a dietitian.
15. Local treatments must be given for foci of infection, i.e., prostatic massage, removal of teeth, tonsils, etc.
16. Vitamins are added to prevent metabolic disturbances.
17. Should ketosis be too severe, alkalies and a small amount of orange juice or tomato juice are given.
18. Thin, cadaveric patients do not tolerate the diet.
19. Patients on the diet lose 4 to 10 pounds weight.
20. The ketogenic diet is not a panacea.

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SEPTIC ABORTION, COMPLICATED BY BILATERAL LOBAR PNEUMONIA, RETROPERITONEAL ABSCESS AND FEMORAL THROMBOPHLEBITIS*

Report of a Case With Recovery

Herman Hertzberg, M.D.

Washington

About 4 a.m., September 23, 1933, I received an emergency call to a patient who was having a chill and severe uterine bleeding. I was told by the patient's sister that the patient had been complaining for 2 weeks, but she had continued to work as a waitress until that night, when she had collapsed and developed severe chills with abdominal cramps and vaginal hemorrhage. Noticing the patient's pinched face and anxious expression I considered her too ill to be questioned or examined, so I advised to have her removed by ambulance to a hospital. She was removed in a few hours to the Sibley Memorial Hospital. The following is an abstract of the patient's history as taken by the intern: The patient was aged 20 years, married, white, nulliparous primigravida. She had had pains in lower abdomen for the past 7 days and nausea and vomiting for several weeks. The past history was negative, except for pertussis, several attacks of tonsillitis and tonsillectomy 5 years before. She had begun to menstruate at 13, with a regular 28-day cycle and a duration of 3–5 days. Amenorrhea had existed since May 26, 1933. She had begun to stain about 2 weeks before, had had occasional cramps in the lower abdomen, frequent chilly sensations, and nausea and vomiting recurring after a free period of several weeks. The vaginal discharge, when the patient was not bleeding was of a very offensive odor. She denied any voluntary interference with her pregnancy, instrumental or otherwise.

During the first 24 hours in the hospital, the temperature rose to 103.6°F. after a marked chill; the pulse ranged around 100–120, respirations, 28. There was considerable vaginal bleeding and a foul smelling discharge. She was unable to retain any food by mouth and vomited several times. Her chief complaint was generalized pain in the abdomen, which was quite distended throughout, with marked resistance in the lower half. The next day the patient passed a 3–3½ months old macerated and highly decomposed fetus with some placental tissue. For the next 2 days her general condition became worse; she continued having chills, vaginal bleeding and abdominal pain. At 6 p.m., September 26, she was taken to the operating room and under light ethylene anesthesia the retained placental tissue was removed with a pair of dressing forceps. This was followed by a blood transfusion. I fully realized that this procedure would not clear up the patient's condition, that the retained placenta was not the main etiological factor in the patient's desperate situation, and that the pathology had advanced far beyond the uterus. A bimanual examination disclosed an extensive pelvic cellulitis with a general infiltration of the broad ligaments and adnexa, the roof of the pelvis forming a solid mass, like hardened plaster-of-Paris. The cervix was soft and necrotic and high up, and the uterus was firmly fixed. There was no fluctuation at any point. The blood picture at that time was not very encouraging. The hemoglobin was 55 per cent, the erythrocytes numbered 3,350,000 per cu. mm., and the leukocytes, 10,600, with 92 per cent polymorphonuclear neutrophiles, 2 per cent young forms and 12 per cent band forms. For the next 24 hours there was no appreciable change in the patient's condition, when suddenly she developed a severe attack of dyspnea, which lasted for about 15 minutes. After stimulation and the administration of oxygen, the respiration remained rapid, labored, shallow, and there was pain throughout the chest. Physical examination revealed dulness over both bases posteriorly to about the sixth rib, and the diagnosis of bilateral lobar pneumonia was made. For 9 days the temperature ranged between 101°F. and 105°F., the pulse rate, 100–140, the respiratory rate, 32–48. On October 2, the third day of the pulmonary complication, the sputum showed many Gram positive cocci (streptococci, staphylococci and pneumococci). In the culture there were Pneumococci, Streptococcus viridans, and Streptococcus hemolyticus and Staphylococcus aureus. Washings from the peritoneal cavity of an injected mouse showed Pneumococci, type IV. The hematological study on the same day presented a poor prognostic picture. The hemoglobin was 54 per cent, the erythrocytes numbered 3,040,000 per cu. mm., and the leukocytes, 13,800 with 92 per cent polymorphonuclear neutrophiles, 3 per cent young forms and 15 per cent band forms. The same picture was present in subsequent blood examinations. The highest leukocyte count at any time was 13,800. During the night of the tenth day the patient was extremely ill, and the temperature dropped to 94.4°F., the pulse to 76 and the respirations to 32, apparently a pneumonia crisis. However, within 24 hours the temperature rose again to 104°F. and the condition became worse. The chest was clearing up, but the pathology in the lower abdomen was aggravated. Instead of the transverse, almost straight line of induration in the lower abdomen, a mass, the size of an orange, developed to the left and above the umbilicus. This tumor was firm, distinctly pulsating, non-fluctuating and continuous with the general infiltration below. A vaginal examination disclosed no fluctuation or softening at any point. The lochia were not profuse but had a very offensive odor. From now on the patient's condition grew worse from day to day. A blood culture showed no growth, which, of course, does not exclude a true septicemia. The chills became more severe, longer in duration and at shorter intervals. Instead of 1 in 24 to 48 hours the patient would have 2 to 3 in a day. The temperature at times reached 107°F. after prolonged rigors and then dropped within several hours to about 96°F., an excursion of about 11 degrees. There was rapid loss of weight, since the patient could retain very little food by mouth. She was delirious, sometimes even when the temperature was down. Aside from her constitutional and abdominal symptoms the patient developed a marked hyperesthesia of the skin, edema of her hands, feet and face, and a generalized toxic arthritis; she became unable to move, actively or passively, even a phalangeal joint without excruciating pain. Repeated urinalyses showed just a trace of albumin and some hyaline casts. On October 15, the mass in the left umbilical region showed some fluctuation in its upper limits, and it was obvious that it would very likely rupture intraperitoneally, since the pelvic ceiling remained hard and unyielding. Since a laparotomy in this case could not be considered I decided to make an attempt to reach the abscess with a posterior colpotomy by boring through the area of pelvic cellulitis. Under local anesthesia, with my left hand over the abdominal mass, I gently guided a curved dressing forceps upward through a posterior colpotomy, hugging the posterior surface of the uterus. After penetrating the resistant pelvic ceiling I managed to reach the fluctuating mass. By opening the forceps I increased the size of the canal. A hard rubber tube was introduced for drainage.

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* Read before the Clinical Conference of the Sibley Memorial Hospital, December 12, 1933.

From then on, the patient began to improve, with all signs and symptoms subsiding. Drainage through the tube was very profuse and of a very foul odor. The temperature was fluctuating around 100°F. with a pulse rate of 80 to 100 and normal rate of respiration. The edema disappeared, the arthritis cleared up and the patient was able to be moved without pain. She had a few mild chills following the operation, but they were comparatively mild and of short duration. On the sixteenth postoperative day the patient began to complain of pain in the right leg, and soon the whole extremity became edematous, reaching about twice its normal size. This thrombophlebitis gradually subsided. Forty-nine days after admission she left the hospital, convalescing and in fairly good condition. I saw the patient on December 9, 1933, 55 days after the colpotomy. She had no complaints. Her general appearance was good. There was steady gain in weight, and she was able to take short walks outdoors. Examination of chest was negative. The abdomen was soft, and there were no masses. The fundus of the uterus was 8 cm. above the symphysis and more or less fixed. The colpotomy wound had healed. The pelvic cellulitis was not quite resolved. The right lower extremity measured from 2 to 3 cm. more in circumference at different levels than the left. Of her stay in the hospital the patient had a very hazy recollection, except of the last 2 weeks.

Effects of Intravenous Administration of Hypertonic Solutions of Dextrose; With Special Reference to the Cerebrospinal Fluid Pressure.—SUMMARY: "The effects of the intravenous injection of solutions of dextrose in various amounts and concentrations were studied in 85 normal patients. The administration of 50 gm. or less in 20 per cent solution produced no untoward clinical sequelae other than diuresis; however, the intravenous injection of 100 gm. or more in 35 to 50 per cent solution caused headaches and other adverse symptoms in 72 per cent of cases, whereas 58 per cent of the patients receiving 185 gm. or more suffered transient pyrexia. The intravenous administration of isotonic solutions caused a transient increase in cerebrospinal fluid pressure; with hypertonic solutions in effective concentration (100 to 200 gm. in 20 to 35 per cent solution) this initial rise was followed by a secondary fall in cerebrospinal fluid pressure, which in turn was superseded within an average of 3 hours by a tertiary increase to levels from 8 to 148 mm. of water above normal. The latter phenomenon is of clinical significance in relation to the late adverse effects sometimes observed in cases of intracranial hypertension treated by the intravenous injection of strongly hypertonic solutions." *Extract from article by* JULES H. MASSERMAN, M.D., *Baltimore. Reprinted from the Journal, A. M. A., June 23, 1934, p. 2085.*

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

A MESSAGE FROM THE PRESIDENT OF THE SOCIETY

July 1, 1934.

Dear Fellow Members:

First, let me express my gratitude to you for selecting me for this high honor. It is with a very humble spirit that I approach my duties. I will give to them all I have, and with your help we will carry on for another year.

On assuming the office of President I find that we have a splendidly reorganized Society due to the efforts during the year just past, under the able leadership of Dr. Prentiss Willson. We have a machine ready to run efficiently for the benefit of its members. The one necessity now is fuel. The committees are ready, their duties are clearly defined and they will do their duty. It is obvious that these committees can unearth but little to do and will do just that little if the members at large do not do their duty and give to these committees the information they need for their investigations. I, therefore, make this plea to each and every member. If you know of unethical conduct among the members of this Society, report it to the Committee of Censors. If you know of unfair contract or compensation practice, report it to the Committee on Compensation, Contract and Industrial Medicine. If you know of an unusually valuable investigation being done with publication in view, inform the Committee on Program so we may have the paper read before our Society. If you know of a helpful hint or criticism regarding our Society Building, inform the House Committee. If you know of a study or circumstance that would be beneficial to our members in the line of medical economics, inform the Committee on Medical Economics. If you know of unfair practice in hospitals and dispensaries, report it to the Hospital Committee. Above all, please be Society-conscious and help your officers and committees. If you don't know enough about any of these matters to tell it to a committee, then don't tell it to anybody else.

The Hospital Committee is a new committee charged with a very important duty. This committee must investigate the ethical relations between hospitals and dispensaries and physicians and at the stated meeting in November it shall report the names of the hospitals and dispensaries to be approved by the Society. Of course, it is our desire that all shall be found complying with the Rules of Ethics so that all will appear on the approved list, and I hope the committee will make every effort to inform and guide the management of the hospitals and dispensaries so that they can, and will, conform to our requirements regarding their ethical relations with physicians.

I had hoped that there would be no important changes in the Committee on Medical Economics and the Committee on Public Health, but owing to the fact that this year Dr. Thomas A. Groover is president of the American College of Radiology he will be unable to serve as chairman of the Committee on Medical Economics, and Dr. Prentiss Willson has been appointed chairman in his stead. Dr. Worth B. Daniels could not again serve as chairman of the Committee on Public Health, and Dr. William H. Hough has been appointed chairman in his stead.

In closing, let me again remind you that we are passing through a crucial test, and much of the fate of the practice of medicine will depend upon the loyal cohesion and support of the members of organized medicine to the principles and practices for which we stand.

Cordially,
A. B. Bennett, M.D.

CAT.

ADOLPHUS BOGARDUS BENNETT, M.D.

President, The Medical Society of the District of Columbia, 1934–1935

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ADOLPHUS BOGARDUS BENNETT, M.D.

Dr. Bennett becomes the 68th President of the Medical Society of the District of Columbia. For years, and especially the past decade, he has been most active in Society affairs, holding responsible offices. His 5 years spent as chairman of the House Committee meant for the membership much in the way of efficiency and economy in the building management. Dr. Bennett has been a member of the Executive Committee for the past 11 years; for 6 years he served as chairman, a position in Society affairs that really is a controlling factor in bringing forth a harmoniously working machine out of many units of different trends. In his specialty he has accomplished much through his independent thinking. Recent contributions to the Society's programs were:

1. "Non-suppurative Mastoid Infection."
2. "The Cure for Mastoid Fistula with Fat Graft. A Case Report."

For the Society's Bulletin he contributed, "Dr. William Thornton—An Original Member of the Medical Society."

Dr. Bennett became a member in 1902, having graduated from Columbian University School of Medicine, now George Washington University School of Medicine, in 1901. Recently he served as president of the Alumni Medical Society of that institution. He was born in Ontario, Canada, October 19, 1879. As a hobby he is an enthusiastic yatchsman, spending his leisure on the waters of the Potomac River and tributaries. Through marriage, Dr. Bennett has a family connection with Dr. Ephraim McDowell. He has in his home highly prized relics of this outstanding man.

Support by all elements in the Society is assured Dr. Bennett on the eve of his entering upon a momentous year in organized medicine.

MEDICAL ECONOMICS

A COMMENTARY ON THE SOCIETY'S PROGRAM*

THOMAS A. GROOVER, M.D.

Chairman, Committee on Medical Economics

Inasmuch as medical economics has been one of the major interests of the Society during the year now drawing to a close I welcome this opportunity to present a brief commentary on the work of the Committee chosen to deal with the problem.

In doing so it is essential to its proper understanding that you have in mind something of the historic background and circumstances that led up to the formation of a Committee on Medical Economics.

You will recall that in November, 1932, the reports of the Committee on the Costs of Medical Care were published. Pursuant to action of this Society on February 22, 1933, a committee of 7 members was appointed to study these reports and make recommendations concerning them. In due course this committee made its report which was adopted by the Society. I doubt if many of you realize that in so doing you participated in the making of medical history far beyond the ordinary in its scope and significance.

If you will refer to the minutes of the eighty-fourth annual meeting of the American Medical Association held at Milwaukee June 12–16, 1933, you will find the following under the caption—"Resolution Endorsing Minority Report of Committee on the Costs of Medical Care."

> "Dr. Henry C. Macatee, District of Columbia, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

---

* Read before the Society, June 5, 1934.

WHEREAS, The Medical Society of the District of Columbia has endorsed the Minority Report of the Committee on the Costs of Medical Care, and has undertaken to engage in an intensive campaign to educate and inform its constituency regarding the socio-economic aspects of medical practice, with a view to the maintenance of high ethical standards and the preservation of professional ideals:

(a) By the dissemination of literature;

(b) By the organization of a speakers' bureau for the purpose of presenting various aspects of the subject to the membership;

(c) By the organization and conduct of study groups; and

(d) By the employment of such other means as may from time to time be deemed expedient for that purpose; and

WHEREAS, The Medical Society of the District of Columbia has by resolution instructed its delegate to endeavor to secure the support of the American Medical Association both of the Minority Report of the Committee on the Costs of Medical Care, and of the Society's plan for promoting harmony of professional opinion and action on the socio-economic aspects of the practice of medicine;

Resolved, That the House of Delegates of the American Medical Association endorses the Minority Report of the Committee on the Costs of Medical Care as expressive, in principle, of the collective opinion of the medical profession; and, in order to clarify and harmonize the thinking of the individual members of the profession on the general subject of the said report, and on allied subjects.

Resolved, That the Board of Trustees be requested to undertake the sponsorship, direction and active participation by the American Medical Association in an intensive campaign to be conducted in coöperation with its constituent bodies for the purpose and along the lines indicated in the first paragraph of the preamble to this resolution."

Further along in the minutes you will find the following as a part of the report of the Reference Committee on Legislation and Public Relations which was adopted by the House of Delegates:

"With reference to the resolution introduced by Dr. Henry C. Macatee, delegate from the Medical Society of the District of Columbia, your committee recommends that the House of Delegates commend the action of the Medical Society of the District of Columbia in informing its members of the medical and social implications of the Minority Report of the Committee on the Costs of Medical Care, in order to enable them better to support the principles and recommendations of that report. Your committee recommends that the House of Delegates commend this plan to the favorable consideration of other constituent associations.

Your committee believes that the organization of groups around hospitals or otherwise, supported by a voluntary or compulsory insurance or taxation, as recommended by the Majority Report of the Committee on the Costs of Medical Care, would be inimical to the best interests of all concerned. It believes that such a plan, if compulsory, would encourage malingering, would create a vast political machine with all its evils, would inevitably lead to state medicine, and would reduce our profession to the status of government employees with the present relation of physician and patient a thing of the past. Your committee believes the Minority Report and its recommendations offer the best solution of the existing situation and the only hope for a future stabilized medical practice. It recommends that the House of Delegates adopt the resolution proposed by Dr. Macatee, namely:

Resolved, That the House of Delegates of the American Medical Association endorse the Minority Report of the Committee on the Costs of Medical Care as expressive, in principle, of the collective opinion of the medical profession."

Insofar as I know the above is the only official pronouncement that the American Medical Association has made in regard to the report of the Committee on the Costs of Medical Care which I believe entitled it to a place of distinction in the Annals of this Society. Its importance to the purposes of the Committee on Medical Economics which was organized last fall cannot be overestimated, inasmuch as it supplied the committee with a definite, clear cut platform and guide bearing the unqualified endorsement both of this Society and the American Medical Association. Let me once again remind you of its several provisions.

1. It recommends that Government competition in the practice of medicine be discontinued and that its activities be restricted (a) to the care of the indigent and of those patients with diseases which can be cared for only in governmental institutions; (b) to the promotion of public health; (c) to the support of the medical departments of the Army and Navy, Coast and Geodetic Survey, and other government services which cannot because of their nature or location be served by the general medical profession; and (d) to the care of veterans suffering from bona fide service-connected disabilities and diseases, except in the case of tuberculosis and nervous and mental diseases.

2. It recommends that Government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden.

3. It recommends that steps be taken to bring about better coördination of the medical resources of the community.

4. It recommends that united attempts be made to restore the general practitioner to the central place in medical practice.

5. It recommends that the corporate practice of medicine, financed through intermediary agencies, be vigorously and persistently opposed as being economically wasteful, inimical to a continued and sustained high quality of medical care, or unfair exploitation of the medical profession.

6. It recommends that careful trial be given to methods which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice.

Every activity of the Committee on Medical Economics and every act of this Society relating thereto has been in consistent accord with and in furtherance of the above principles.

I need not at this time recount in detail what these acts and activities have been, since they are fresh in the minds of most of you. There has been one accomplishment, however, which I believe is worthy of special note, namely, the Group Hospitalization Plan which the Society has endorsed. To the best of my information it is the only group hospitalization plan among scores of others throughout the United States that embodies in full measure the principles you have enunciated. I suggest in recognition of the friendly spirit of coöperation with this Society on the part of the organizing committee and the hospitals that the individual members do all that they can to promote the success of the enterprise.

Now, in conclusion, just a few words as to future policies. Let me remind you that what we speak of as organized medicine, as represented by the American Medical Association and its constituent bodies, of which this Society is one, is a truly representative organization. Manifestly, then, all that organized medicine can do is to endeavor to interpret and make effective the will of the majority subject to constitutional provisions and rules of our own making. If, then, the principles I have brought to youı attention are (as this Society and the American Medical Association have said), expressive of the collective opinion of the medical profession, it is obviously our duty as an organization to do all in our power to make them effective so long as that opinion prevails. That is all that the Committee on Medical Economics with the support of the Society has tried to do—indeed that is all it can do.

There is still one other self-evident fact that I wish to call to your attention, because we are so prone to forget it. It is inevitable that the principles that this Society is endeavoring to uphold shall come into conflict with existing practices, otherwise there would be little or no excuse for their promulgation. It is no less apparent that if the Society repudiates these principles when they do come into conflict with such practices the effort in promulgating them has been utterly wasted, and the entire program will inevitably collapse.

Finally, just a word as to why the Medical Society of the District of Columbia and the American Medical Association merit your continued support, particularly with respect to the matters under consideration. I believe that the medical profession is practically unanimously of the opinion that it is to their interest and in the public interest that the physicians of the country have a large measure of influence, if not complete control, in all matters pertaining to the practice of medicine. This can be accomplished and maintained only by loyal coöperation with the agencies mentioned. Let me for the sake of emphasis state the matter differently. We all know that it is necessary for the medical profession to council and coöperate with various lay groups, but when it comes to the disposition of socio-economic problems which are peculiarly the doctors' concern, neither you nor I like to see a lawyer or banker or sociologist or college president or legislator or any other layman perpetually and everlastingly "sitting at the head of the table." From such a situation our only hope of deliverance lies in organized medicine, and the measure of our success in its accomplishment will be determined by our unity and steadfastness of purpose.

TUBERCULOSIS IN THE DISTRICT OF COLUMBIA*

Committee Appointed by the Board of Commissioners, D. C., Reports

The Special Committee to Investigate the Tuberculosis Situation in the District of Columbia, appointed by the Board of Commissioners on April 6, 1934, makes a majority† report as follows:

After a general discussion of the problems presented to it, the Committee has reached the conclusion that it can best fulfill its function by dealing with various questions of policy rather than with details. The subject divides itself into two major policies: First, the formulation of an ideal health set-up for handling the problem of tuberculosis in a city of some 500,000 with a mixed population of colored and white; and second, the formulation of recommendations looking toward the immediate amelioration of the admittedly deplorable condition existing.

I. With regard to the first policy, that is, the formulation of an ideal health set-up for handling the problem of tuberculosis:

1. *The Committee recommends that all health activities connected with tuberculosis should be centered in a full-time tuberculosis officer in the Health Department.*

(a) Qualifications. He should be expert in his field, including hospital administration, clinic administration, and ability to coöperate with other groups working in the City so that the maximum force available may be put at his service.

(b) Duties. He should have entire charge of the initiation of plans, the administration of clinics, and have authority to coördinate the hospital and nursing activities of the city. Upon the request of a physician attending a tuberculous patient his services and those of his full-time associates should be available for consultation without charge.

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* Following the receipt of report of Subcommittee of the Committee on Public Health on Tuberculosis of the Medical Society of the District of Columbia, the Board of Commissioners appointed, on April 6, 1934, Drs. William C. Fowler, Chairman, William Charles White, Prentiss Willson, J. W. Peabody, H. J. Crosson, and F. C. Smith as a committee to make a complete survey of the tuberculosis situation in the District of Columbia.

† A minority report submitted by Chairman, Dr. W. C. Fowler, follows.

(c) Advisory Board. He should have an Advisory Board consisting of the physician-in-charge of the Tuberculosis Hospital at Upshur Street, the physician-in-charge of the Children's Tuberculosis Sanatorium, the physician-in-charge of Gallinger Municipal Hospital, the President of the Association for the Prevention of Tuberculosis in the District of Columbia, a designated member of the Medical Society of the District of Columbia, and a designated member of the Medico-Chirurgical Society of the District of Columbia.

2. *The Committee recommends the erection of a new 500-bed adult tuberculosis sanatorium.*

Proper isolation and treatment facilities are indispensable and as there are approximately 600 deaths annually from tuberculosis in the District of Columbia a minimum of 600 beds is required. The provision of an additional 500 beds will permit the eventual abandonment of the present tuberculosis sanatorium at Upshur Street.

3. *The Committee recommends the provision of an adequate free tuberculosis clinic.*

This should be so conducted and managed as to be prepared to receive patients, both white and colored, and of any age, at any working hour of every weekday. It should possess modern facilities including expert personnel in sufficient numbers to make all required examinations promptly. It should provide consultation facilities for any practising physician and such treatment facilities as may be required for ambulatory patients.

Its personnel should include physicians, nurses and technicians, as well as social service workers and clerical assistants. For the City of Washington there should be the equivalent of 3 full-time physicians skilled in the treatment of tuberculosis. The staff should also include proper consultant service in the various special branches of medicine.

The physical equipment should include modern appliances for diagnosis and treatment of tuberculous cases.

4. *The Committee recommends the provision of an adequate instructive visiting nurse service.*

There should be in a city the size of Washington at least 250 instructive visiting nurses, each of whom is skilled in the home-care of tuberculosis as well as in the care of other diseases.

It should be the duty of each nurse to give advice on every phase of tuberculosis prevention and control under the advice of the physician in charge of the case, such as advice on the destruction of sputum, securing examination of persons having had contact with tuberculosis, the isolation of patients remaining in the home, seeing that the instructions of the physician are carried out, instruction in the proper handling of food, disinfecting of dishes and bed linen, and seeing that patients report regularly to physician or clinic.

In the modern Instructive Visiting Nurse Society instruction in the care of the tuberculous is not separated from instruction in the care of other diseases, but each nurse is instructed in the care of all diseases as approved by the National Organization for Public Health Nursing and the American Public Health Association.

In the cities of New Haven and Detroit, for instance, an arrangement has been made with the Instructive Visiting Nurse Society whereby the community pays for the service on a cost per visit basis. Such an economic method is also employed by the Metropolitan Life Insurance Company and other organizations.

II. With regard to the second policy, that is, the formulation of recommendations looking toward the immediate amelioration of the present conditions:

1. *The Committee recommends that a full-time tuberculosis officer be immediately appointed to the Health Department whose qualifications and duties shall be as stipulated in 1-a, and who shall have an Advisory Board such as stipulated in 1-c of Section I of this report.*

2. *The Committee recommends that steps be taken immediately to provide a 500-bed hospital*, but as this will not take care of the immediate emergency and as an adult hospital is urgently needed, the committee further recommends that the following steps be taken to fill the present need:

(a) Utilization on a per diem basis of whatever beds in the local hospitals are found to be available for the reception of tuberculous patients.

(b) Transfer on a per diem basis of all children now being cared for in the Children's Ward at Gallinger Municipal Hospital to the Children's Hospital, thus providing an estimated capacity of 60 beds for the reception of adult tuberculous patients.

(c) Utilization, at least during the coming summer, of the Health School adjacent to the Tuberculosis Hospital at 14th and Upshur Streets for tuberculous adults needing hospital care, thus relieving the intensely overcrowded conditions at the Upshur Street hospital.

3. *The Committee recommends that the facilities of the Tuberculosis Dispensary at 301 C Street be increased to permit it to receive patients, both white and colored, of any age during any working period of every weekday.*

The following facilities are deemed essential:

(a) Personnel. There should be one full-time physician in charge of the clinic, 2 full-time assistants or their equivalent in part-time physicians, all expert in the care and treatment of tuberculosis, a sufficient number of nurses, technicians, social service workers, clerical assistants, and special consultants.

(b) Space. There should be modification of the building to provide necessary waiting rooms, examination rooms, etc. If this is not found possible in the present building a larger building should be acquired.

(c) Apparatus. There should be modern equipment for all necessary diagnostic and therapeutic procedures.

4. *The Committee recommends that the tuberculosis officer, who should be immediately appointed, enter into negotiations with the Board of the Instructive Visiting Nurse Society to study and work out plans for coöperation between the Health Department and the Instructive Visiting Nurse Society to provide an adequate nursing service utilizing all available resources in the District of Columbia.*

There are at present available through the Instructive Visiting Nurse Society 69 nurses.

The Committee believes that the clinic should be staffed with nurses under the direction of the Health Department, but that, as has been done in other cities, the home nursing service could be more economically handled and duplication of work avoided by some arrangement to obtain this service from the already splendidly organized Instructive Visiting Nurse Society which is trained to render this service in coöperation with physicians and clinics.

Inasmuch as the amelioration of the present conditions is most pressing, the *Committee recommends that the Commissioners take steps to secure adequate funds from Congress to provide for these emergency measures for the remainder of the current fiscal year and the coming fiscal year.*

The Commttee has had referred to it for its opinion certain estimates covering additions to the present Children's Tuberculosis Sanatorium and the provision of accessory buildings and an adult hospital of 333 beds.

While the Committee does not feel itself competent to pass on these estimates it sees no reason to doubt that they are reasonably accurate. However it adheres to its contention that the new tuberculosis sanatorium for adults should be built with a 500-bed capacity, rather than a capacity of 333 beds, so that the present Tuberculosis Hospital at 14th and Upshur Streets can eventually be abandoned.

The Committee is further of the opinion that a hospital of 500-bed capacity, including construction and equipment, cannot be built for less than $4,000 per bed.

The above constitutes a majority report, unanimous with the exception of Dr. W. C. Fowler, Health Officer, who will submit a minority report.

Respectfully submitted,
William Charles White, M.D.
Prentiss Willson, M.D.
J. W. Peabody, M.D.
H. J. Crosson, M.D.
F. C. Smith, M.D.

To the Commissioners, D. C.:

The committee appointed by the Commissioners under date of April 6, 1934, "to make a complete survey of the tuberculosis situation in the District of Columbia," having fulfilled the duties assigned them, beg leave to submit a majority and minority report.

While the minority report does not disagree in all particulars with the majority report there are a number of recommendations that the minority cannot see its way clear to agree with.

1. The majority report recommends "that all health activities connected with tuberculosis should be centered in a full-time tuberculosis officer in the Health Department." To approve that recommendation would take from the Health Officer the right to supervise the work of this "full-time tuberculosis officer." As the Health Officer is responsible for all the activities of the Health Department there should be no room for divided authority. In other words the "full-time tuberculosis officer" would be supreme in all matters relating to tuberculosis in the District of Columbia. That, in a way, would make the Health Officer subordinate to this tuberculosis officer in any matters relating to tuberculosis in this District. Such an arrangement can result only in disagreement even in the preparation of budget estimates for the Health Department.

I am in hearty agreement with the recommendation for a "full-time tuberculosis officer," but he must serve under the direction and with the approval of the Health Officer as do the other employees of the Health Department. I am unalterably opposed to any other arrangement.

2. I am not in agreement with the appointment of a supervisory board in which, as recommended, the Health Officer is entirely ignored and practically all other agencies represented.

3. I am not in full agreement with the recommendation that the "tuberculosis clinic" be so conducted and managed as to be prepared to receive patients, both white and colored, and of any age at any working hour of every weekday. This clinic has been, and is now, operating on a schedule of alternate days for each race, and to apply the recommendation of the majority report will certainly lead to criticism and other difficulties.

4. I am not in agreement with the recommendation that "the Instructive Visiting Nurse Society take over the nursing responsibility of patients suffering from tuberculosis in the District of Columbia and the community pay for such service on the cost per visit basis." To approve this recommendation would take from the Health Department a duty that is now imposed upon it by law, and I fail to see why a government agency

should surrender the rights and authority conferred upon it by law to an unofficial agency that is responsible to no one but the organization to which it is attached. I am certainly in accord with the closest possible coöperation of all agencies doing tuberculosis work in the District, but the official agency must be in control.

5. I am in disagreement with the recommendation that "the tuberculosis officer should have entire charge of the initiation of plans, the admission to clinics, and have authority to coördinate the hospital and nursing activities of the city." There are other nursing activities in the District of Columbia besides those relating to tuberculosis, and yet under the recommendation of the majority the tuberculosis officer would be authorized to coördinate such activities. There is absolutely no justification for placing such authority in the hands of the tuberculosis officer.

6. I am not in agreement with the recommendation that "the service of the tuberculosis officer or his full-time associate should be available for consultation without charge." I am in hearty accord with the recommendation for the furnishing of this free service to persons who are without means to pay for it, but in fairness to the members of the medical profession engaged in practice in this District they should not be deprived of the opportunity of earning a consultation fee from those who are amply able to pay for such service. If, however, any 2 physicians are in attendance upon a patient and are unable to reach a decision as to diagnosis I am heartily in favor of lending such assistance in reaching a diagnosis as the Health Department may be able to give regardless of the financial status of the patient.

7. I am in disagreement with the recommendation that "utilization, at least, during the coming summer, of the health school adjacent to the Tuberculosis Hospital at Fourteenth and Upshur Streets, for tuberculous adults in need of hospital care thus relieving the intensely overcrowded condition at the Upshur Street hospital." This so-called health school was provided for some years ago by Congressional appropriation, such appropriation having continued from year to year since its erection. The object of the school was to provide a place for the education of children suffering from communicable types of tuberculosis, such children being prohibited from attending the regular class rooms because of the danger to the other pupils. This school, I understand, is filled to capacity with children, some of whom have communicable forms of tuberculosis and some the so-called childhood type that is generally regarded as non-communicable. These children have been denied the right to attend regular school classes. They are not all children of parents of very limited means, but some are children from the better financial class in this District. If this school should be taken over for hospital purposes what would be done with the children now attending that school? The majority of your committee appear to have gained the impression that this whole group of children can be taken out bodily, so to speak, and transferred to the Children's Sanatorium when that building is ready for occupancy. That institution is located 15 miles from the center of the city, and many of the parents of these children, especially those that suffer from a non-communicable type of tuberculosis, are not likely to send their children away from home to be housed in a children's sanatorium.

Attention is also called to the fact that at the time the building of the Tuberculosis Hospital was under consideration much opposition developed to placing it in a residential section (Fourteenth and Upshur Streets) and after bitter controversy a court order was obtained by the citizens restraining the Commissioners from placing the institution in its present location. Subsequent to the court order referred to, the District having already purchased the ground and not being able to make use of it, Congress in one of its appropriation acts directed that the building be erected on the District property, its present location. To extend hospital facilities in that neighborhood would, in my judgment, only invite attack against the movement.

Fully realizing the eventual need for greater facilities for caring for persons suffering from tuberculosis I am in full agreement with the recommendation of the majority to "transfer on a per diem basis all children now being cared for in the children's ward at Gallinger Municipal Hospital to Children's Hospital" (provided satisfactory arrangements can be made with Children's Hospital), thus providing an estimated capacity of 60 beds for the reception of additional tuberculous patients.

If a hospital having a 500-bed capacity can be erected it will be very desirable, but if such a hospital cannot be built I recommend that the Commissioners make every effort to secure an appropriation sufficient to enable them to erect a hospital of 333-bed capacity as per estimate already submitted, and that the other buildings contemplated to be erected on the land owned by the District on the Defense Highway be completed as provided for in estimates already prepared.

The following is a list of the additional buildings to be provided on the land adjacent to the Children's Tuberculosis Sanatorium located on the Defense Highway:

1. To complete Children's Sanatorium....	$400,000
2. To complete Children's Nurses Home...	30,250
3. Adult Nurses Home..................	250,000
4. Adult Sanatorium....................	666,000
5. Superintendent's Residence...........	16,000
6. Technical Staff Buildings..............	70,500
7. Enlarge Heating Plant, etc............	200,000
8. Garage and Shop Building............	7,500

9. Water Supply and Sewage Disposal....	$ 90,000
10. Treatment Grounds.................	137,500
11. Equipment Hospital, Other Buildings...	75,000
	$1,942,750
12. Architecture, Consultants, Engineering 4 per cent.........................	75,000
	$2,017,750
Say............................	$2,000,000

In addition to the present set-up at the tuberculosis dispensaries I recommend the following:

1 Medical Director (full time)..............	$4,600
1 Supervising Nurse (full time).............	2,200
1 Clerk (full time)........................	1,440
12 Nurses (full time) @ $1,800 each..........	21,600
3 Physicians (full time) @ $3,200 each.......	9,600
1 Laryngologist (half time).................	1,800
1 Roentgenologist (half time)...............	1,800
1 New X-ray machine to replace one now in use.	7,000
2 Ultra Violet Lamps @ $600 each...........	1,200
2 Automobiles for use of nurses in making home visits...............................	1,200
Automobiles' Maintenance ($240 each per annum)...............................	480
Transportation for nurses (1 pass per week, $1 each)...............................	780
Pneumothorax outfit (refill to include table and carriage)..............................	400
	$54,100

With the additional hospital and dispensary facilities recommended I think the tuberculosis situation in the District of Columbia will be very well taken care of. The amount of money asked for is large, but the problem to be dealt with is equally large.

Respectfully submitted,
W. C. Fowler, M.D.,
Chairman of Committee.

SECTION ON INTERNAL MEDICINE

The results of the election of officers for the ensuing fiscal year are as follows:

Bernard W. Leonard, *Chairman*
Fred A. J. Geier, *Vice Chairman*
A. J. B. Connolly, *Secretary-Treasurer*

WASHINGTON HEART ASSOCIATION

The annual meeting of the Washington Heart Association was held in the Medical Society Building on Thursday, April 26, 1934. Approximately 250 persons were in attendance, including physicians, representatives of social agencies and citizens interested in the activities of the Association. Dr. William D. Stroud, Professor of Cardiology of the Graduate School of the University of Pennsylvania and Secretary of the American Heart Association, addressed the meeting on the subject: "The American Heart Association's Work in the Prevention and Relief of Heart Disease." Reports of the standing committees of the Association were made by the respective chairmen, thus outlining the activities during the past year.

The following officers were elected for the year 1935:

Dr. Sterling Ruffin, *President*
Dr. Wallace M. Yater, *Vice President*
Dr. James W. Esler, *Secretary*
Mr. Samuel M. Kauffmann, *Treasurer*

The Washington Heart Association has been an affiliated member of the American Heart Association for the past 3 years. It has under its direction in Washington 3 Heart Clinics which are recognized by the American Heart Association, namely, those at Emergency, Children's and Georgetown University Hospitals. In addition it extends its influence to the Heart Clinics at George Washington University and Providence Hospitals, which as yet have not become recognized clinics.

The present Board of Governors of the Association consists of the following:

Mrs. Anna Archbold, Mrs. Spencer Cosby, Mrs. Chauncey Depew, Mr. Julius Garfinckel, Mrs. Gilbert Grosvenor, Comdr. William W. Hargrave, Mr. Coleman Jennings, Mr. Samuel H. Kauffmann, Mrs. Wade Martin, Mr. George H. Myers, Mrs. J. J. O'Connor, Drs. Thomas A. Claytor, Coursen B. Conklin, Lewis C. Ecker, James W. Esler, Leslie T. Gager, B. L. Hardin, O. F. Hedley, Thomas S. Lee, James Alexander Lyon, William J. Mallory, John Minor, W. Cabell Moore, Sterling Ruffin and Wallace M. Yater.

Mrs. Wade Martin is the Executive Secretary.

THE LOUIS MACKALL MEDICAL SOCIETY

The annual banquet of the Louis Mackall Medical Society was held at the Kenwood Country Club on May 10, 1934, with Dr. Victor R. Alfaro, President, presiding. Dr. Howard F. Kane, an honorary member of the Society, was guest of honor. The following is the list of officers for the ensuing year:

William W. Chase, *President*
Frank D. Costenbader, *Vice President*
Richard W. Wilkinson, *Secretary-Treasurer*

OFFICERS, WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, 1934–35

Mrs. A. B. Bennett, *President*
Mrs. William Thornwall Davis, *First Vice President*
Mrs. Ralph M. LeComte, *Second Vice President*
Mrs. Stuart O. Foster, *Corresponding Secretary*
Mrs. Lyman B. Tibbets, *Recording Secretary*
Mrs. C. W. Culver, *Treasurer*
Mrs. Oscar Wilkinson, *Historian*

PROFESSOR HANS LAUBER

Guest Speaker

Dr. Hans Lauber, now Professor of Ophthalmology, University of Warsaw, formerly Professor of Ophthalmology at the University of Vienna, also Director of the Fuch's Clinic, will be the special guest of the Academy of Ophthalmology and Otolaryngology at its meeting in Chicago in September. Dr. Lauber will address this Society on the evening of October 3, 1934, on the subject of "Choked Disc." Those who have had the privilege of hearing addresses by this well-known ophthalmologist comment on his pleasing personality and the excellence of his English.

REGISTRANTS, A. M. A. CONVENTION, 85TH SESSION, JUNE 11–15, CLEVELAND

The following members of this Society attended the 85th session held in Cleveland, June 11–15, 1934. All will testify as to the meeting's success and the generous welcome extended by the City.

Harry Ford Anderson
John M. Baber
Harry S. Bernton
Grafton Tyler Brown
John R. Cavanagh
Arthur C. Christie
J. Lloyd Collins
Coursen B. Conklin
Edgar P. Copeland
Hugh S. Cumming
William T. Davis
H. H. Donnally
H. N. Dorman
F. J. Eichenlaub
Joseph F. Elward
Ella M. A. Enlows
Walter Freeman
Leslie H. French
Fred A. J. Geier
J. Beaty Griffith
Thomas A. Groover
Ralph J. Haws
O. F. Hedley
Lynwood Heiges
W. P. Herbst, Jr.
Edmund Horgan
Julian M. Howe
George R. Huffman
Oscar B. Hunter
Merritte W. Ireland
Henry W. Jaeger
Howard F. Kane
James P. Leake
Ralph M. LeComte
Thomas S. Lee
James Alexander Lyon
Henry C. Macatee
Albert E. Marland
George W. McCoy
P. A. McLendon
Claude Moore
William Gerry Morgan
Lester Neuman
Margaret M. Nicholson
William F. O'Donnell
James A. O'Keeffe
Mary O'Malley
Ella Oppenheimer
W. J. B. Orr
W. P. Reeves
Norman P. Scala
Maurice A. Selinger
Ernest Sheppard
Jesse Shoup
W. Calhoun Stirling
Earl R. Templeton
Eugene R. Whitmore
Oscar Wilkinson
Prentiss Willson
Wallace M. Yater

CONSTITUTION AND BY-LAWS

As Adopted in 1911 and Amended; Revised and Readopted on May 23, 1934

Copies of this revision should be in the hands of members at this time. An innovation was made in adding in an appendix, "The Principles of Medical Ethics of the American Medical Association." Your copy should be in every sense of the word a desk copy for frequent reference. There was probably never a time in the profession's history when knowledge of basic laws governing the activities of organized medicine should be more thoroughly known and more confidently used as a guide for conduct. Dissentions and misunderstandings would indeed be much more infrequent if all concerned lived up to the ethical standards as outlined in the copies recently distributed.

THE KOBER BEQUEST

The Society is a recipient in the partial distribution by the Executor of the estate of the late Dr. George Martin Kober. A provision in the will reads:

> "To pay the sum of six thousand dollars ($6,000) to the Medical Society of the District of Columbia, the income to be devoted for the relief of old or infirm physicians."

Attention of the members is called at this time to the activities of the Committee on Bequests. The Society will be able to carry out your wishes and thereby increase its value in community service if you mention this organization in your will. The committee has knowledge of this having been done by a number of members. May this worthy cause have your attention. Your communications are held in strictest confidence.

Harry A. Fowler, *Chairman*
Prentiss Willson
Coursen B. Conklin
Committee on Bequests

John Edgar Walsh, M.D., (1865–1934) died of cerebral hemorrhage on Friday, June 22, 1934, at his residence where he had long maintained his office. Dr. Walsh was particularly noted for his early work in bacteriology and sanitation. During the nineties he was connected with the Health Office. He had the distinction of having accompanied, as surgeon, the Peary Relief Expedition in 1895. His early education was obtained at St. John's College, Annapolis, Md.; later in 1890 he was graduated from Columbian Medical Department, now George Washington University School of Medicine. In January, 1931, he had completed 40 years of membership in the Society; his name was placed on the Society's honor roll according to provisions of the Constitution. Dr. Walsh had served the Society as a member of its Building Committee and also had been a member of the Committee of Censors. He is survived by his sons, John Butler and Humphrey Martyn Walsh.

Edward Grant Seibert, M.D., (1865–1934) who had rendered distinguished service to the Medical Society of the District of Columbia and who had an enviable record for service rendered his country in developing aviation medicine, died Saturday, June 30, 1934, and was interred at Arlington National Cemetery on July 3, 1934. Dr. Seibert was an indefatiguable worker, giving freely of his talents, especially during the financing and erection of the Society's Building. He served as treasurer from 1919 to 1923. His committee connections included the Executive Committee, the Building Committee and the Business Affairs Committee. For more than 10 years he served as chairman of the Traffic Committee. His words of advice were always welcomed and indeed sought. At the outbreak of the World War he immediately accepted a commission as Captain. His rise was rapid, being discharged in 1919 as Lieutenant Colonel. His entire service was in the field of aviation medicine. In this work he was indeed a pioneer. In the George Washington University Medical Society he served as treasurer, later as president. For years he was attending surgeon in the ear, nose and throat dispensaries, particularly at George Washington University Hospital. He was Professor of Medical Chemistry in his alma mater, later Associate Professor of Oto-Laryngology. Dr. Seibert was born in Chambersburg, Pennsylvania, August 28, 1865. He had spent the larger part of his life in Washington, where in his specialty he enjoyed a large clientele. He is survived by his widow, Mrs. Jessie Hopkins Seibert, and a daughter, Carolyn.

Edward Grant Seibert, M.D.
(1865–1934)

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III · AUGUST, 1934 NUMBER 8

NEUROSYPHILIS FROM THE STANDPOINT OF THE OPHTHALMOLOGIST*

G. VICTOR SIMPSON, M.D.

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It would seem that the importance of the presence of some single sign or symptom increasing the probability or possibility of the existence of syphilis or neurosyphilis in a patient became considerably minimized by the introduction of the complement fixation test in 1910. In other words, while we do have classical symptoms in neurosyphilis and especially ocular symptoms, the final diagnosis rests, I believe, upon a positive complement fixation in the blood or spinal fluid or both. It is no longer necessary to rely on the presence of an ocular finding, or to await the results of the therapeutic test before a definite opinion can be expressed. However, it is still evident that in the ocular changes accompanying neurosyphilis, signs and symptoms are developed with such regularity that their presence in an individual makes the probability greater of syphilitic invasion of the meninges, blood vessels, or main mass of the brain, and their presence can be the determining factor in advising further well-directed investigation. The recognition of such changes rests most often with the general physician, and slightly less often with the neurologist and the ophthalmologist. It is important, nevertheless, that all 3 groups be familiar with these changes.

Two methods of presenting the ocular manifestations in neurosyphilis occurred to me. I might take the 3 types of neurosyphilis, tabes, general paralysis, and meningovascular syphilis, and discuss the common eye changes in each, but I have chosen to reverse the common order. I shall present to you the ocular abnormalities which may assist in making the diagnosis of neurosyphilis, in determining the prognosis, in locating the site of disease, and in defining its character.

Manifestations of neurosyphilis may be found in two portions of the ocular apparatus: (1) paresis or paralysis of the motor nerves to the intrinsic and extrinsic muscles of the eyeball, and (2) affections of the optic nerve.

The intrinsic muscles of the eye are three in number. (1) The Sphincter pupillae is a flat band of smooth muscle fibers 1 mm. broad, lying in the posterior layers of the iris near the pupillary border. Response of these fibers to stimulation results in contraction of the pupil. Since the pupil acts to regulate the amount of light which enters the eye, the reflex to cause constriction of the pupil begins with stimulation of the retina. (2) The muscles of accommodation consist of circular and longitudinal groups of smooth muscle fibers situated in the ciliary body. Contraction of these fibers increases the refractive power of the eye and makes possible the adjustment necessary for near vision. The reflex of accommodation begins in the cerebral cortex, but this mechanism is also accompanied by a contraction of the pupil. Nerve fibers to the Sphincter pupillae and muscle of accommodation arise in the nucleus of the third nerve, each from a distinct portion, enter the orbit with the third nerve and continue with the branch of that nerve which goes to the inferior oblique muscle, leaving it to enter the ciliary ganglion. New fibers arise which are identified as the short ciliary nerves and directly supply the two intrinsic muscles. (3) The third intrinsic muscle is that group of ectodermal muscle cells lying in front of the posterior pigment-layer of the iris, identified as the "constrictor pupillae." The muscle cells are supplied by the sympathetic. Interruption of the normal sympathetic control of the constrictor muscle results in contraction of the pupil.

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* This and the following two papers were read as part of a symposium on neurosyphilis before the Section on Nervous and Mental Diseases of the Society, February 1, 1934.

Pupillary Changes

With a knowledge of these few anatomical and physiological facts one may see clearly the abnormalities of pupillary reactions and the disturbances of accommodation which arise in neurosyphilis.

Abolition of the light reflex, with or without myosis, and with the convergence accommodation pupillary constricting reaction retained, constitutes the most reliable ocular aid in the diagnosis of neurosyphilis. This phenomenon is named after Argyll Robertson, who first described it in 1869. It occurs in some degree in 80 per cent of all cases of neurosyphilis. It may frequently be accompanied by inequality and irregularity of the pupil. The pathology of this abnormal pupillary reaction lies in disease of the fibers connecting the superior corpus quadrigeminum with the nucleus of the third nerve, the superior corpus quadrigeminum being the primary center for those fibers from the retina which carry the stimulus of the pupillary light reaction. The midbrain in the region of the aqueduct of Sylvius appears to be a favorable spot for attack by the spirochete, since the lesion must be so situated to cause the Argyll Robertson pupil. It has been known for many years that along with the posterior nerve roots and posterior columns of the cord the midbrain is a site of election for the lesions in tabes, but only 5 per cent of syphilitics develop tabes. It is evident, therefore, that midbrain disease with pupillary changes must be an accompaniment of all types of neurosyphilis.

That other conditions can give rise to pupillary changes identical with the Argyll Robertson phenomenon has for a number of years been accepted; outstanding in importance are multiple sclerosis, lead poisoning and the chronic stage of encephalitis lethargica.

Myosis, or marked contraction of the pupil, is found in association with the Argyll Robertson pupil in 25 to 30 per cent of the cases. As previously stated, it indicates loss of normal sympathetic control of the Dilator pupillae. The causative lesion, I believe, is thought to exist in the ventral roots of the first three thoracic nerves.

One pupillary manifestation remains to be discussed, so-called internal ophthalmoplegia, which presents itself as a unilateral, widely dilated pupil, inactive both to light and to convergence, and associated with complete aparalysis of accommodation, which produces an impairment of vision in individuals under 48 years of age. The lesion may be either in the nucleus or along the course of the third nerve. This pupillary change favors the diagnosis of neurosyphilis of the meningovascular type. It often occurs, however, as an isolated sign, and the patient later may develop any of the recognized types. Neurosyphilis is probably not the most frequent etiologic basis for this pupillary change; such conditions as diphtheria, focal infection, etc., are recognized as frequent causes.

Pupillary changes then, in general, favor the diagnosis of neurosyphilis, but must not be accepted as unquestionable evidence of the existence of the disease.

I have never seen, nor have I seen reported, any recovery of pupillary reactions in neurosyphilis following treatment.

Extrinsic Ocular Muscle Weakness

Passing to a consideration of the extrinsic muscles, I shall speak of the 6 pairs of muscles supplied by the third, fourth and sixth cranial nerves. Extra-ocular muscle paresis is a common symptom in all types of neurosyphilis. Partial paralysis of the third and sixth nerves occur most frequently. Sudden diplopia may give the clue to the central nervous system involvement in the late secondary stage; transient muscle paresis occurs frequently in the early or late stages of the parenchymatous and paracentral types of neurosyphilis. The lesions responsible for this may occur as a lymphocytic infiltration into the nuclear area or as an extension of a meningitis into the nerve sheath at the meningeal level.

Extra-ocular muscle paresis may be recognized by three outspoken signs: (1) Ptosis or inability to elevate the upper lid, which immediately incriminates the third nerve; (2) diplopia, often detected by the patient and easily elicited by an examiner; (3) limitation of motion in the field of the paralyzed muscle.

Eye-muscle paralyses are of much greater significance for economic reasons than pupillary changes. Suddenly developing diplopia calls for a thorough survey to determine the cause. (Neurosyphilis is much less frequently the etiology in private practice than in dispensary service.) Rapid recovery does not rule out neurosyphilis. Spontaneous or therapeutic recovery of muscle function may take place through recovery of the diseased nerve, or it may be delayed two months or longer while a new neuron is growing outward from the cell. Treatment during this time is essential to prevent excessive scar formation and a mechanical blockade to the growth of this fiber.

OPTIC ATROPHY

The second ocular manifestation in neurosyphilis—changes in the optic nerve—is of two types: (1) primary optic atrophy, and (2) optic neuritis and papilledema.

Much has been written recently and much is known to all of you about primary optic atrophy, but certain facts of this condition will bear repeating. Optic atrophy should be considered as a separate complication of tertiary syphilis. It bears no relation to tabes—except that it appears at times in patients who have or will have tabetic symptoms (10 to 15 per cent). It appears also in patients with parenchymatous neurosyphilis, or general paralysis (4 to 7 per cent), and it likewise appears in patients with neither of these distinct types, but in whom syphilis is the cause.

The morbid anatomy of the condition is interesting. It consists of chronic inflammation of the nerve, beginning near the chiasm, caused by spirochete invasion. Death of the neurons results from inflammatory compression and toxin poisoning. It is a bilateral disease, occurring more frequently in men.

The initial symptom in all of the cases which I have seen is impairment of the vision in one eye. Atrophy of the nerve fibers is always preceded by pallor, and the bluish white disk will be present by the time the patient presents himself for examination, the edges of the disk being sharply outlined and the vessels normal. Concentric contraction of the form fields with unequal loss of the color fields is characteristic, but certain sectors may suffer to a greater extent. It may be interesting to the ophthalmologist to learn that some cases set in with a central scotoma. Primary optic atrophy may be accompanied by Argyll Robertson pupils. The loss of the light reflex and dilated pupil which is present in an eye with a high grade of optic atrophy must be distinguished from "internal ophthalmoplegia." The consensual contraction to light will be present in the eye with optic atrophy and absent in the eye with motor-nerve paralysis.

The diagnosis of primary optic atrophy can usually be made with ease. Late secondary atrophy following optic neuritis may be difficult to rule out, and occasionally at times it is impossible unless one is given the opportunity to watch its development in the other eye. Every case of optic atrophy, unless the cause is definitely known, demands careful study of the spinal fluid. A certain number of likely neurosyphilitics will have negative spinal fluids, but surely that number must be small, and as the tests for syphilis by laboratory methods become more and more sensitive the determination of the etiology will be made with more certainty.

At the present time the history, a careful ophthalmoscopic study, the determination of the state of the visual fields, a neurological examination, and the use of the laboratory and X-rays all may be necessary to differentiate primary atrophy of neurosyphilis from that occurring in multiple sclerosis or chiasmal pressure of all sorts (including pituitary tumors, meningeal tumors, and pressure from sclerotic cerebral vessels), which are the two conditions offering difficulty.

The odds for the patient to go blind in both eyes are all against him. The diagnosis is almost always made late, and the optic nerve lacks resistance to any toxin or inflammation because of the absence of the sheath of Schwann and because regeneration of the nerve takes place following the destruction as in peripheral nerves. As the malarial treatment of general paralysis has demonstrated, however, there is a stage of considerable duration in which the parenchymatous elements of the brain are poisoned and are functionally depressed but are still capable of recovery. Such a stage must exist in the progress of optic atrophy, and if the suggested treatments of Moore are begun early we have reason to be hopeful.

Optic Neuritis

There remains for discussion one other manifestation of neurosyphilis, that is, optic neuritis. An inflammation of the optic nerve, on one or both sides, may develop as a complication of secondary syphilis, which is hematogenous in origin. I do not believe it necessarily means neurosyphilis. Optic neuritis may also be the first sign of a neuro-recurrence, which can be almost eliminated by the combined arsenic and mercury treatment as the first course and continuous treatment of alternate courses of arsenic and of mercury and bismuth. Optic neuritis may also arise by extension from syphilitic meningitis.

The condition begins abruptly, with a marked loss of central visual acuity, and the diagnosis is easily made by examination with the ophthalmoscope. To rule out the many possible causes of the optic neuritis, it is essential to employ all means of investigation, and to employ them promptly. If it can then be established that syphilis is the cause, it is important that the patient receive proper anti-syphilitic treatment; and that can only be secured by a complete review of past therapy and the employing of arsenic, mercury or bismuth. Intensive treatment is necessary, since considerable permanent loss of vision follows continued inflammation of the nerve.

Neurosyphilis must always be ruled out in a patient with choked disk, although I do not believe it is a frequent cause of this ocular condition. The development of papilledema in a patient with neurosyphilis, or the finding of a positive spinal fluid Wassermann in a patient with choked disk indicates increased intracranial pressure, and the probable lesion is a gumma. Perimetry here, as in brain tumor, is an essential part of the examination and may be the means of localizing the site of disease.

DISCUSSION

Dr. James N. Greear, Jr.: I wish to emphasize the fact that Argyll Robertson pupils do not necessarily mean that the patient has neurosyphilis; while it is rarely caused by other conditions, it must be remembered that it does occur in parkinsonism and multiple sclerosis. In a report on eye changes observed in paretics after malaria, it was stated that of 28 patients having Argyll Robertson pupils, 22 regained normal pupillary reactions. Personally, I have never seen a patient who regained normal pupillary reaction after treatment. In extra-ocular muscular paralysis, which occurs more frequently from lues or neurosyphilis than any other one disease, other conditions should be ruled out before making a diagnosis. I wish to cite 2 cases which I have seen in the last year: (1) There was bilateral optic atrophy, bitemporal hemianopsia with some changes in the fundus, perivascular thickening, with negative serology and negative history. X-ray of the skull was negative. The patient was subjected to a brain operation and was found to have aneurisms of both ophthalmic arteries; later, another test revealed a 4-plus Wassermann reaction of both the blood and spinal fluid. The man is now getting treatment and doing very well. Dr. Shugrue did a decompression of the optic foramen which probably helped the man retain what vision he now has. (2) There was a papilledema with negative serology, increased intracranial pressure, negative Wassermann at one hospital, repeated at Emergency Hospital and found to be 4-plus. He was treated and the condition disappeared. He had essentially normal vision, pure choked disk, nothing inflammatory at all.

Dr. Walter Freeman: Dr. Simpson's statement concerning the frequency of Argyll Robertson pupils in neurosyphilis as being 80 per cent seems rather high. I would like to ask him to qualify it by stating what he considers Argyll Robertson pupils. The original description was that of myopic pupils that reacted in accommodation but not to light. In my experience, it is quite rare. There is a partial or larval form which might occur in 80 per cent of neurosyphilitics. I have seen a few cases, 3 or 4 perhaps, in which there was some return of pupillary reaction following malarial treatment, and those who had not had complete loss of the reaction showed greater response following treatment. I would like to ask what outlook there is for the treatment of optic atrophy following intraspinal therapy and also with malaria.

Dr. D. Percy Hickling: I was very much interested in looking up the original paper published concerning the Argyll Robertson pupil. He described 2 phases: (1) paralysis of accommodation to light, and (2) accommodation to distance. In most cases of paresis the pupils seem to be fixed both to accommodation and to light, and of course we find the typical reaction of accommodation to distance with paralysis to light. I have found a form of Argyll Robertson pupil which is fixed to distance, but reacts to light. Two cases were accompanied by facial neuritis following an attack of diphtheria.

Dr. Theodore C. C. Fong: At Saint Elizabeths Hospital I do not recall improvement of a single case of optic atrophy following malarial treatment. One colored patient who had bilateral optic atrophy of a year's duration with complete blindness was given 15 intravenous injections of typhoid vaccine; after the thirteenth a return of vision was noted, and now he can perceive light. It is the only instance of this kind that I know of. As for the return of pupils to normal, I have seen very few cases unless there was some preservation of the pupillary reflexes before the malarial treatment was given.

Dr. William H. Hough: I saw one case of Argyll Robertson pupils which after treatment returned to normal. It was the only case that I have seen.

Dr. Joseph L. Gilbert: What is Dr. Simpson's experience with the reactions of pupils after the excessive ingestion of drugs and alcohol? We see many such cases, both acute and chronic. Generally we see widely dilated pupils in acute intoxications, and in the chronic many have the same reaction as that seen in neurosyphilis and so closely similar to the paretic or tabetic sign that one may be misled in making a diagnosis. One such patient was so excited that he appeared to be a paretic, but the brother said the patient had been drinking excessively for years. Since he had a negative serology, he was diagnosed as alcoholic pseudo-paresis. We also find the pupillary changes rather typical of paresis in arteriosclerosis and encephalitis.

Dr. Isaac J. Silverman: We recently had a boy of 14, wildly excited, who had an unconscious spell, and a low I.Q.; we felt it was possibly epilepsy. He also had a choroiditis. The serology was negative. His speech was slightly slurring. Would one be justified in making a diagnosis of C. N. S. lues on the basis of such symptoms?

Dr, D. Percy Hickling: Has time developed any significance of pupils with cut-off corners? Some time ago neurological clinics paid considerable attention to it. The iris, instead of being uniformly round, showed a nick or angular appearance. It was said of one physician, that when he found that particular pupil he never asked the patient whether he had syphilis, but when he had syphilis.

Dr. Simpson: The embarrassing situations that Dr. Greear mentions will happen probably as long as time. The relief from such situations must come from more accurate laboratories. The time has indeed come when the original Argyll Robertson pupil has been modified. Myosis occurs in 10 to 25 per cent of the cases, but failure of the pupil to respond to light, whether dilated or myopic is considered Argyll Robertson. The type of pupil originally described is the one that does not respond to light but does to accommodation. The third type of pupil is dilated and does not respond to light or to accommodation. As for the type that Dr. Hickling mentions, I am afraid that I do not understand just what he means.

Dr. H. D. Shapiro: The paradoxical pupillary reaction is one reversed from that described as the Argyll Robertson, but has the same meaning. I believe that is what Dr. Hickling was describing.

Dr. Walter Freeman: That particular pupil is found more often in encephalitis, but occasionally in syphilis.

Dr. Simpson: Dr. Moore in his book is against the treatment of optic atrophies by non-specific proteins. Concerning the drugs, there is a small pupil in sleep which we get from the continued action of the third nerve and depression of the sympathetic nerves. It seems that the pupils should be smaller in the case of chronic ingestion of drugs.

Dr. Joseph L. Gilbert: In the acute drug poisoning we get markedly dilated pupils with no accommodation to light.

Dr. Simpson, in closing: The only way I might explain it is by paralysis of the third nerve. In Dr. Silverman's case, I do not believe that choroiditis is enough to allow a diagnosis of neurosyphilis. Although one type of choroiditis is almost proof of neurosyphilis, the isolated patch would make one hesitate to make such a diagnosis.

NEUROSYPHILIS FROM THE STANDPOINT OF THE OTOLOGIST

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The subject of neurosyphilis is of extreme importance to the otologist because, although there is only one important otologic phase of neurosyphilis, it is one, however, which usually demands prompt attention. I refer to syphilitic deafness. From the pathological viewpoint, syphilitic deafness may be due to either neuritis of the eighth nerve or to Ménière's disease. I will not attempt to spend much time in considering the morbid anatomy of each of these conditions, the first of which is identical to the neuritis of the optic or other nerves. Ménière's disease, which is a hemorrhage into the labyrinth, is the direct result of syphilitic vascular disease, and, therefore, does not strictly belong in the scope of this paper. I may say in passing, that the usual symptom complex of Ménière's disease is sudden tinnitus with reduced hearing or complete deafness and more or less severe vertigo, with the associated symptoms of nystagmus, past-pointing and falling.

To return now to eighth nerve neuritis, it is well to mention the fact that of the 2 branches of the eighth nerve, the cochlear is perhaps the first to develop symptoms, although the vestibular branch is by no means exempt. Non-syphilitic neuritis of the eighth nerve is a fairly common, though often overlooked, condition. It is particularly present in meningitis, measles, scarlet fever, influenza, pneumonia and diphtheria.

Given a case of sudden deafness (and many a syphilitic neuritis is quite sudden in onset) it behooves the otologist to differentiate between the catarrhal and the conductive or nerve deafness. Inspection of the external canal and tympanic membrane is the first step in our diagnostic procedure in order to rule out the possibility of a large amount of impacted cerumen, the occurrence of which accounts for a very large percentage of the gradual or even sudden deafnesses. If no cerumen is present, the appearance of the drum membrane must be considered. A retraction of the membrane towards the internal wall of the middle ear is a common symptom of catarrhal deafness due to eustachian tube disease with subsequent absorption of the intra-tympanic air and the production of rather severe tinnitus, deafness and sometimes even vertigo. However, if the typical picture of catarrhal deafness presents itself, it is not enough to assume that this is the only type of deafness present, for one occasionally finds people who have had a mild catarrhal deafness with the above-mentioned picture, who suddenly develop eighth nerve neuritis with the production of almost complete deafness both by air and bone conduction. It is important, therefore, to follow closely a routine of differential diagnosis in all cases of deafness.

We begin by testing the air conduction with tuning forks varying in pitch from 128 to 4,096 double vibrations per second. Loss of hearing for the lower notes of the scale suggests the presence of catarrhal deafness. The loss of hearing for the higher frequencies suggests pure nerve deafness, while partial loss of both the higher and lower frequencies with moderate normal hearing for the middle frequencies is a very common finding and indicates a mixed type of deafness. The latter picture is commonly encountered in older patients who begin to have physiological nerve deafness due to senile atrophy superimposed on preëxisting catarrhal deafness. Using a fork of 128 or 256 double vibrations, we then proceed to the performance of the Rinne, Schwabach, Weber, and Gellé tests.

The Schwabach consists in placing a vibrating tuning fork over the mastoid process and removing it from time to time in order to allow the patient a contrast, so that the first time that it is replaced but not heard, one may count the number of seconds that it has been heard; or, if the examiner's hearing is normal, he may compare it to his own. This is repeated for the opposite ear. The test is of utmost importance in ruling out nerve deafness from catarrhal deafness and otosclerosis. In nerve deafness the Schwabach is reduced, whereas, in catarrhal deafness the Schwabach is normal, and in otosclerosis it is often increased.

By placing the tuning fork over the mastoid and, when the patient ceases to hear it, placing it opposite the external auditory canal, we perform the Rinne test. A positive Rinne, in which air conduction is about twice as long as bone conduction, is normal. Decrease of the air conduction without decrease of bone conduction is indicative of catarrhal deafness. If the bone conduction is greater than the air conduction it is a negative Rinne, and we find this only in very severe catarrhal deafness, but always in otosclerosis.

The Weber test consists in placing the vibrating tuning fork either on the vertex of the skull, on the chin, or immediately over the superior middle incisors, and asking the patient to which side, if either, the sound is lateralized. Diffusion of the sound without lateralization is the normal finding. Lateralization to one side means either nerve deafness of the opposite side, or catarrhal deafness to the side to which it lateralizes. The latter phenomenon may be clearly shown by placing the tuning fork in any of the above-mentioned positions and occluding with the finger the external auditory canal. The sound will lateralize to the occluded side because the obstruction does not allow a normal diffusion of the sound waves, but rather produces a closed chamber with increased echoes and resonance.

The Gellé test consists in forcibly immobilizing the ossicular chain by pressure on the drum which is accomplished by blowing air through a rubber tube that fits the canal snugly. Then a vibrating tuning fork is placed over the mastoid process of that ear. In the normal ear the exertion of pressure on the drum reduces very perceptively the acuity of hearing by bone conduction in that ear, whereas, in the otosclerotic ear no change in bone conduction occurs. This is due to the fact that already an osseous fixation of the stapes inhibits any artificial pressure. A modified Gellé test, devised by Wieder of Philadelphia, is very valuable for the determination of borrowed bone conduction often seen in cases of complete unilateral nerve deafness.

The above procedures are enough, therefore, to diagnose nerve deafness, catarrhal deafness and otosclerosis. But what the etiology of a given nerve deafness may be, cannot be told without the help of the clinician and the laboratory. A negative history of syphilis does not rule out a syphilitic eighth nerve neuritis, and all cases of sudden nerve deafness must be suspected of being due to syphilis when there has not been a preëxisting infectious disease of the type which may also produce neuritis. A blood Wassermann or spinal-fluid Wassermann are of utmost importance in these cases. Even when they are negative a therapeutic test is an advisable procedure, for, if given early, there is nothing which will give a more dramatic improvement, than the treatment of syphilitic deafness. One must not forget that there are other non-toxic or infectious causes of nerve deafness, such as intracranial tumors, which destroy the eighth nerve by pressure along any part of its course. I have in mind particularly the cerebellopontile angle tumors, a great number of which begin in the eighth nerve. A Barany and a neurologic examination, however, should help to aid in the diagnosis of tumor.

As I mentioned above, prompt anti-syphilitic treatment pushed to the limit of tolerance will, in the majority of cases, produce almost miraculous recovery. There are some cases of syphilitic deafness, however, which are slow in appearing, and the damage in these cases is beyond repair.

THE TREATMENT OF NEUROSYPHILIS

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The greatest single factor in the treatment of neurosyphilis is its prophylaxis. In recent years, greater emphasis has been placed on this factor, and chemotherapeutic research has been aimed in this direction.

Probably the next important step is early diagnosis and adequate therapy to prevent the development of lesions in the central nervous system.

During the last decade more progress has been made in the treatment of neurosyphilis than in any decade. Through diligent research and experimentation there have been added to our armamentarium of anti-luetic agents such drugs as bismuth by Sazérac and Levaditi, bismarsen by Raiziss, tryparsamide by Jacobs and Heidelberger, iodobismitol by Hanzlik and fever-inducing agents by Wagner-Jauregg, who first stimulated interest in this field.

Failure to receive adequate treatment in the early stages is in all respects due to three considerations: first, failure of early diagnosis, second, lack of coöperation on the part of the patient, and third, his financial inability to pay for proper treatment. These 3 factors must always be borne in mind. A number of the patients with neurosyphilis that eventually become hospitalized at Saint Elizabeths Hospital fall into these 3 classes, and during the past few years probably a greater number have come from the last group. Many patients have told me of their willingness to continue with their treatment, but, because of the excessive expense involved, they were utterly unable to do so. They, therefore, had to do one of two things, either discontinue their treatment entirely or else obtain their treatment from some public clinic.

A large group of these patients will not do the latter, either through pride or fear of disclosure. Undoubtedly, many patients have given their few remaining dollars to physicians and finally have had to discontinue their treatment because of financial difficulties. These factors should not be left out of consideration. Public clinics are usually efficient in the treatment of the earlier stages of syphilis, but, because of the lack of facilities or through some other factors, are, as a general rule, incompetent properly to treat neurosyphilis.

Fortunately, the incidence of neurosyphilis is not high, being conservatively estimated at about 3 to 6 per cent. The proper time to treat this condition is in its early stages when gross symptoms are absent. Its presence is evidenced by spinal fluid findings. It is generally estimated that from 40 to 60 per cent of early syphilitics show definite pathological spinal fluids, indicating early extension of the disease to the central nervous system.

It is, therefore, essential that proper diagnostic and therapeutic measures be undertaken in these early stages to combat the havoc that will later be wrought by spirochetal invasion of the nervous system. The proper diagnostic step can be readily accomplished by early spinal fluid examinations in all syphilitics coming under observation, while chemotherapy adequately employed may be utilized in accomplishing the final objective.

Recently, drugs have been prepared which are more penetrant to nerve tissue; for example, the common preparations of bismuth in use have been in the basic form, but today, through research, it has been demonstrated that the acidic or anionic forms of bismuth are much more likely to reach involved nerve tissues and thus prevent the later development of nervous system lesions.

In the therapy of neurosyphilis, one can, for the sake of simplicity, divide the types to be treated into several large clinical groups; first, the meningeal, second, the vascular, third, the parenchymatous and fourth, syphilitic transverse myelitis.

The Meningeal Type

With the meningeal type, which is undoubtedly the most common type of early central nervous system invasion, the basal meninges are principally affected. As a rule, this type is not complicated by the presence of vascular or parenchymatous involvement, and, therefore, the prognosis is much better than in the other types. With the other types there is commonly an admixture of pathology, so that instead of a pure vascular lesion, there is usually meningovascular, vasculo-parenchymatous or meningo-vasculo-parenchymatous involvement.

The treatment of the meningeal type consists in the employment of the arsphenamines, mercury, bismuth and the iodides following the general use of these drugs. Tryparsamide and fever therapy are not indicated unless other methods have been tried and found unsuccessful. In some cases the Swift-Ellis procedure is employed with more or less benefit. Bismarsen is probably one of the most effective drugs in this particular type. In some cases meningeal symptoms develop during therapy, and in these instances continued treatment will prove of definite benefit.

For the types of meningeal involvement occurring later in the course of the disease, such as the gummatous, diffuse thickening of the meninges and pachymeningitis, the treatment is the same as for the earlier form, with the iodides particularly indicated in the gummatous lesions.

THE VASCULAR TYPE

In the vascular type of neurosyphilis, the usual form being characterized by an apoplectic attack, the treatment should be limited to the iodides, bismuth and mercury over a long period. Here, potassium iodide orally and sodium iodide intravenously, together with bismuth and mercury are definitely beneficial. Arsphenamines are contra-indicated because of the weakened and diseased vascular structures of the brain. If arsenic is to be employed at all, bismarsen should be the choice. This is given intramuscularly in doses ranging from 0.1 to 0.2 gram once weekly over a period of 10 to 20 weeks. This constitutes the usual procedure. Several courses should be administered provided no untoward symptoms develop during the treatment. Treatment in the vascular cases must be continued more or less indefinitely.

THE PARENCHYMATOUS TYPE

Parenchymatous neurosyphilis is of 2 types, tabes dorsalis and general paralysis. Tabes continues to be the dread of the syphilologist. Intraspinal therapy, once believed to be specific for this type of neurosyphilis, has fallen into disuse in recent years. It has its drawbacks and complications, and furthermore, the response to intraspinal therapy is not always productive of desired results. Likewise, fever therapy of various types has been employed without any definite beneficial influence.

The effective treatment of this particular type is still open to chemotherapeutic research. Lately, through the efforts of Raiziss, there has been developed a preparation termed bismarsen. This is a combination of bismuth and arsenic in one molecule. Its use in tabetics has been productive of some excellent results, especially from a symptomatic angle. The severe lightning pains, gastric crises, ataxia and sensory symptoms,' together with incontinence, have all been definitely influenced for the better with the use of this drug. As yet, only a few reports of its use in tabes have appeared in the literature, but from personal observations the most gratifying results have come from the employment of this drug alone or in conjunction with tryparsamide. Bismuth alone or in combination with one of the arsphenamines has not produced results equalling those following the use of bismarsen.

In a case of a young woman with marked ataxia, necessitating the use of support and with almost total loss of control in her lower limbs, several courses of this drug were administered; she responded to such an extent that she was able to walk without any support and to control her lower extremities with a remarkable degree of accuracy.

In another instance, a patient with severe lightning pains was entirely relieved by the use of this drug after narcotics and sedatives had been employed for years without success. Incidentally, an associated incontinence was relieved by means of the treatment.

Other cases could be cited in which therapeutic response was most gratifying and was far more effective than any agents that had been tried, including intraspinal therapy.

The limitations and contra-indications of this preparation are few. We have had a single case of thrombocytopenic purpura following its use, with complete recovery.

Undoubtedly more has been accomplished in the treatment of this paresis than in any other type of neurosyphilis. Stimulated by the interest shown by Wagner-Jauregg in pyretotherapy, many investigators have attempted the use of various agents to provoke elevations of temperature, among the more prominent being relapsing fever, sodoku, sulphur in oil, typhoid vaccine, radiothermia and superdiathermia. These methods have proved more or less satisfactory in the hands of some investigators.

There is no question in our minds that malaria is by far the most effective pyrogenic agent, so far as beneficial results are concerned. Although some patients may not respond to the tertian type of malaria, the employment of the quartian type finds a ready response in most instances.

Certainly, we have had much greater response following the use of quartian malaria in our colored paretics.

There are certain contra-indications to the employment of malaria therapy that should be emphasized, and, among the outstanding are organic heart disease, nephritis, cachectic states and tuberculosis. In these particular instances, the employment of typhoid vaccine intravenously when carefully administered in gradually increasing dosage gives good results.

Several important factors should be considered in the malaria treatment; the first is the number of paroxysms. From a recent survey by Freeman, Eldridge and Hall of over 200 paretics treated with malaria at Saint Elizabeths Hospital from 5 to 11 years, it was found that patients who were permitted to have 10 or more paroxysms responded far better than those allowed less than 10.

Second, it was also discovered that patients who had improved clinically should show serological improvement, but, not necessarily vice versa. From careful studies made here of a large series of paretics treated between 1922 to 1930, it was estimated that there was complete serological reversal in 2½ to 3 years; on the other hand, paretics who had responded clinically but not serologically over this period usually relapsed.

As to the employment of drug therapy after the use of malaria there is some controversy. The presence of active luetic lesions involving other viscera has been repeatedly demonstrated in malaria-treated cases of neurosyphilis who have come to necropsy. It is, therefore, essential that these patients receive some subsequent anti-luetic therapy in order to eliminate the possibility of the presence of active syphilitic lesions occurring elsewhere in the system.

Tryparsamide, first synthesized by Jacobs and Heidelberger, is undoubtedly a valuable addition to our armamentarium. I believe it has a definite place in the treatment of neurosyphilis. The asymptomatic type of neurosyphilis, *paresis sine paresi*, together with the meningovascular or cerebrospinal forms respond quite well to this type of treatment. Due to the weakly spirocheticidal effect of this drug, bismuth should be employed in conjunction with it. The alternating use of bismuth and tryparsamide offers much to the incipient cases of paresis of the *paresis sine paresi* type and to the meningovascular forms of neurosyphilis.

In the moderately advanced and advanced types of paresis and in those incipient cases that have not responded after a reasonable length of therapy with tryparsamide and bismuth, fever-inducing agents, preferably malaria, should be employed without further delay.

In a recent article Reese of the Wisconsin Psychiatric Institute disapproves the general claim that tryparsamide is more penetrating than the other arsenicals so far as the central nervous-system tissues are concerned. The beneficial effects, he claims, are due to some inherent property of the $NHCH_2$ molecule contained in the drug.

The average dose for tryparsamide varies from 1 to 3 grams or approximately 0.04 gram per kilo of body weight. It is stated that subtherapeutic doses of less than 1 gram should not be administered to adults because intensification of symptoms may result.

The value of this drug lies in its ease of administration and freedom from untoward reactions. The average course consists in weekly injections intravenously of from 2 to 3 grams until a total of 10 to 15 injections are administered, following which a rest period is given.

In the administration of tryparsamide care must be taken to prevent damage to the optic nerve. Choroiditis, retinitis and optic nerve damage are generally regarded as definite contra-indications to tryparsamide therapy.

Before, and following each course and during the course of treatment, if occasion necessitates, the visual acuity, eye grounds and the visual fields should be carefully checked. Constriction of the visual fields is a warning to discontinue the use of this drug.

The results from the employment of this drug are quite favorable clinically but much less so serologically. The common belief is that sufficient amounts should be given before it is discarded as useless.

Syphilitic Transverse Myelitis

In syphilitic transverse myelitis, which fortunately from a therapeutic standpoint, is relatively rare, two pathological types are recognized; one due to interference with the vascular supply and the other due to sectional infiltration of the spinal cord with lymphocytes. In the former type, treatment is of very slight benefit, and the cases as a rule terminate fatally.

In the latter type, success to a greater or less degree has been reported with the employment of the arsphenamines and the iodides in massive doses.

In conclusion, I might add that in a brief discussion of this nature, it has been possible only to outline the more important and accepted methods of treating neurosyphilis. One must always take into consideration the personal equation, inasmuch as no two cases can be treated alike, and conditions such as age, general physical condition, stage of the disease, presence of luetic involvement elsewhere are but few of the important factors that should be considered in treating any case of neurosyphilis.

Moreover, idiosyncrasy to a particular drug and immunity to certain fever-inducing agents are also factors which must be regarded.

Nevertheless, we can definitely state that encouraging progress has been made in the therapy of this once resistant form of syphilis.

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DISCUSSION

Dr. William H. Hough: In paresis, I believe the general practitioner sees the cross section of the results of treatment of malaria therapy. We have been getting a wrong idea of the meaning of social recovery. One author states that 67 per cent of paretics go into remission after treatment, and another says about 20 per cent of the cases result in social recoveries. I venture to say that social recoveries in paresis will not exceed 20 per cent at the most. There are paretics that recover serologically but become hopeless wrecks eventually. About 4 per cent go along well anyhow, it is generally known. Is it an advantage to treat the advanced cases of paresis? My impression is that the best treatment is malaria, but there is a type of paresis that frequently does not reach the institution, and it is particularly this type that develops within 5 to 6 years from the time of the chancre. It is a fact that paresis develops earlier with arsphenamine treatment. This last type of paretic gets along as well with arsphenamine as with malaria; also, it is cheaper and has not so many consequences. Speaking of optic atrophy, I have not had a patient with complete blindness, but I did have a case of an almost blind patient who absolutely refused malaria. I put him on tryparsamide and he came right out. My impression is that tryparsamide is the most efficient remedy for tabes. At least 20 per cent of the cases are arrested for years by this method.

Dr. Russell J. Fields: Does Dr. Fong consider the reactions to water-soluble bismuth contra-indications, especially in neurosyphilis? I would also like to know if he has had any experience in the use of electro-negative bismuth.

Dr. Walter Freeman: We recently examined the status of some 200 patients, all paretics, treated by malaria, from the period beginning in 1922 to 1928. About 20 per cent were social recoveries, earning their own living outside the hospital; another 10 per cent were cared for outside; about 40 per cent were still under treatment; about 30 per cent were dead. We felt this indicated that the long range of results pretty well bore out the immediate results. Dr. Fong mentioned the number of paroxysms. We also made a study of the duration of syphilis before treatment in relation to the social recoveries; of those treated with malaria during the first year, 59 per cent were discharged, 7 per cent died; of those waiting more than 3 years before treatment 9 per cent were able to be discharged and 39 per cent died. It must be remembered that all of these were hospital cases, duly adjudicated. Our feeling is that malaria could be applied with even better results before committment to a hospital becomes necessary. Some reports on the early stages of paresis treated by malaria have shown very gratifying results.

Dr. Joseph L. Gilbert: We see patients with marked neurological signs and hemiplegia; is it worthwhile to treat such cases with malaria, or is hemiplegia a contra-indication? I remember the first case of social recovery in Saint Elizabeths Hospital. I wonder what condition he is in now. Of course, it is true that remissions always have occurred even without treatment. In older literature Church and Petersen mentioned cases in which there was no recurrence during the patient's lifetime, often 20 years after paresis developed. Osler reported cases in which there were 10 to 20 years' recovery from acute symptoms. We also see many cases who recover from acute symptoms and who without treatment go on to complete paralysis. I wonder if there is still a ward at Saint Elizabeths Hospital with 60 to 70 patients in the last stages of paresis? Has malaria done away with that type of patient?

Dr. H. D. Shapiro: It is interesting to recall that the first social recovery I saw was sent to New York to get his malaria, since there was none available in Saint Elizabeths Hospital (Anacostia was once full of malaria!). The patient recovered and is now a very valuable mechanic in a garage.

Dr. Isaac J. Silverman: We have been counting the chills when the temperature goes over 103°F. Is that in accordance with the views of the rest of the men?

Dr. Fong, in closing: In answer to Dr. Hough's remarks about the social recoveries, we included only the patients who got jobs back equivalent to the ones they were holding or the same job. Some even obtained better positions, and this number altogether amounted to 30 per cent of the survivors. In the treatment of congenital syphilitics, so far nothing has been accomplished either with malaria, tryparsamide or anything else. In the treatment of tabes, we have had better results with bismarsen. Some patients given tryparsamide without relief and then put on bismarsen had their symptoms disappear and remain absent. So far as electro-negative bismuth is concerned, I have had no experience with that. Experience with treating the hemiplegias has not been very encouraging. The cases do not seem to respond to malaria, and we are using the iodides and bismuth. In 1922, the first patient treated with malaria at Saint Elizabeths Hospital (incidentally he was the first one in America to receive the treatment) still has a completely negative spinal fluid, and he retains the same status both socially and economically as in 1922.

A NEW TREATMENT FOR PROSTATIC CALCULI

Report of a Case in a Young Man with Removal by Means of the Resectoscope

Norvell Belt, M.D.

Washington

An unusual case of multiple calculi of the prostate gland in a young man is responsible for the development of a new field for the resectoscope, namely, removal of prostatic calculi without the usual open operation.

The patient, 24 years old, complained of frequent and painful urination every 10 to 15 minutes during the day. Starting 4 years ago the condition was becoming worse and finally interfered with daily work.

The only possible pertinent history consisted in Ménière's disease 3 years before, and orchitis following the mumps a year before. Examination in the office revealed severe pyuria, marked crepitus of the prostate gland palpated through the rectum, residual urine of 6 ounces, intravesical enlargement of the prostate gland as seen with the cystoscope, and multiple shadows in the prostatic area suggestive of calculi in an X-ray film (Fig. 1).

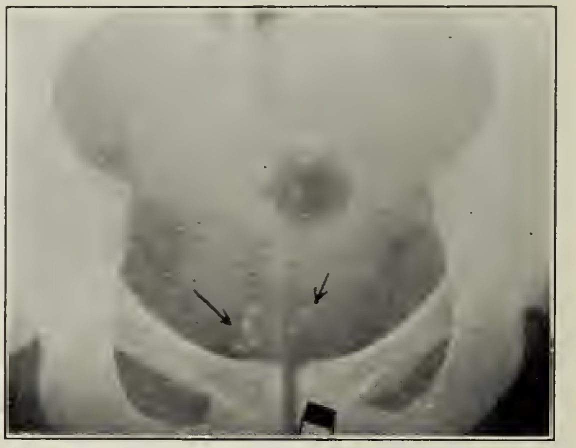

Fig. 1. Multiple Shadows in Prostatic Area Suggestive of Calculi

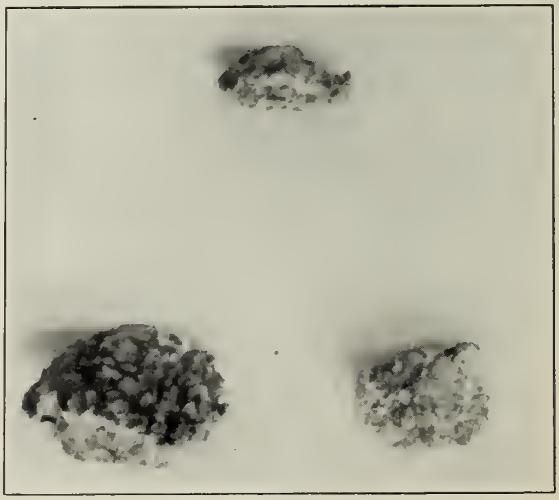

Fig. 2. Multiple Prostatic Calculi

Because of the patient's age resection was decided upon rather than prostatectomy, and after careful preparation 3 prostatic calculi were

(*Continued on page 232*)

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

CERTIFICATION OF SPECIALISTS

A movement has gained much momentum for the certification as qualified specialists of members of the profession who have had special training in certain branches of the healing art, so that the general practitioner, and even the layman, may know whom to consult with confidence in case of need. The individual's competency is judged by certain criteria. The certificate issued stamps him as worthy both of public trust and the confidence of the profession. He is *de facto* a competent consultant in the specialty designated. There are several difficulties attendant upon the present arrangement: (1) the number and diversity of the bodies examining and passing on credentials, (2) the varying types of designations, (3) the lack of means for the bringing of the list of qualified experts before the public in an ethical manner, (4) the connotation of the term "specialist." Shall the large number of so-called part-time specialists as listed in the American Medical Directory be not allowed to qualify as accepted consultants? During very recent years "Academy" seems to be the preferred designation for a group of associated specialists. The standards for admission into these groups are high, and it is reasonable for one to accept a member of one of these Academies as well-trained and of standing in his particular specialty. The American ——— Society and the American Association of ——— have been for some time in the field as types of national organizations of men doing special work in medicine. It must be said that these latter bodies as a rule are quite exclusive, with high ideals. In most cases their extremely limited membership has brought about the birth of new organizations which maintain the high ideals but allow for a membership inclusive of all who can meet reasonable standards. For example, we now have an American Academy of Ophthalmology and Otolaryngology. For a number of years previously the American Laryngological Association, the American Ophthalmological Society and the American Otological Society have represented these specialties. The American Pediatric Society for some 35 years antedated the organization of the American Academy of Pediatrics. In our own city of Washington there has recently appeared the Academy of Surgery composed of local surgeons who have set qualifications for membership designed to exclude the incompetent. There could be cited many other instances establishing this trend.

The Council on Medical Education and Hospitals of the American Medical Association now certifies clinical pathologists and also establishes a list of physicians competent in radiology. At the last meeting of the House of Delegates of the American Medical Association, through an adopted resolution, this Council was instructed to draw up a series of requirements for the certification of gastro-enterologists and proctologists. At the present time, operating with the approval of the national organization we have the following boards, all of which set forth requirements in the way of preparation, maintain examinations and grant certificates:

American Board of Ophthalmology
American Board of Otolaryngology
American Board of Obstetrics and Gynecology
American Board of Dermatology and Syphilology
American Board of Psychiatry and Neurology*

At least one state, New Jersey, through action of its State Medical Society's House of Delegates in 1932, has undertaken to establish for the state of New Jersey just what qualifications a specialist should possess, with the offering of examinations and the certification of accredited specialists through county organizations. Then, there are the American College of Surgeons, the American College of Physicians, and the American College of Radiology, each now requiring candidates for admission to pass a rigid test. The American College of Surgeons, in their examination, give special tests for those who are practicing a surgical specialty such as otolaryngology, etc. The American College of Physicians has not yet made any differentiation of its members into subgroups of specialists. The placing of "F.A.C.S." or "F.A.C.P." after the names of their members is encouraged and would appear in general to be a legitimate, ethical manner of typifying members of the profession who have a background of good training, ability and high ideals. In addition to all of the foregoing it must be added that a diplomate of the National Board of Medical Examiners should be worthy of special trust because of his passing the exacting requirements of this board. Medical departments of universities granting such degrees as the master of science in surgery following the serving of a fellowship for a stated number of years, place the recipient of the degree in a position to begin with some standing.

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* This board was organized at a preliminary meeting last December; announcement and approval of its organization were made by appropriate resolution before the House of Delegates at the Cleveland meeting.

The entire situation above depicted has been well recognized by the Trustees, the House of Delegates, and the Council on Medical Education and Hospitals of the American Medical Association; in fact, the latter body at one of its meetings had a symposium on the subject of "Recognition of the Specialist." It would seem that the various boards and their activities should be encouraged. Through requirements carefully planned and integrated, with standard examinations of fitness, means will be at hand for the appraisal of consultants. Certain hospitals now are requiring members of their ophthalmological department to have certificates from the American Board of Ophthalmology. This movement will undoubtedly spread. Through designation in the coming edition of the American Medical Directory, further recognition of the examining boards' activities will be given. Plans are in formulation for getting the information to the laymen in an ethical and unoffensive manner. A problem is to get a larger number of specialists to take the various boards. Here again publicity will prove a potent factor. In passing, comment must be made upon the certification of specialists by states. Although at first glance this would appear to be a solution, the political implications and the confusion which would undoubtedly result if one were recognized as a specialist by one state board of examiners and not by another can be well imagined.

Shall certified consultants only be chosen from members of the profession who claim the limitation of their practice to one recognized specialty? By what process will the limits of a specialty be placed, especially in some of the broad fields of internal medicine as gastro-enterology, pediatrics, etc? This is food for thought. In a paper by Osler on "Internal Medicine as a Vocation," it is stated: ". . . . the student of internal medicine cannot be a specialist. . . . . Typhoid fever, for example, will not only go the round of those embraced in medicine proper but will carry its students far afield in morbid psychology and sometimes teach him, perhaps at the cost of the patient, a little surgery." The dictionary gives the following definition of "specialist": "A person devoted to some one line of study or occupation or profession, especially a physician or surgeon, who applies himself to the practice of a particular branch of his profession." The significant omission of "exclusively" after the words "applies himself" should appeal to those who would narrow examinations by various boards or limit approval by academies to candidates who allegedly ply one specialty to the exclusion of all else. Consultants of most merit have had contact with many fields of medicine besides the one in which they devote most of their time. Then too, it may be added, narrowed specialties cannot be supported in the small community. Cities of smaller population deserve consideration in the distribution of certified consultants.

The desirability of some official national agency designating those specially trained is evident. In time, even through the process of trial and error, there will undoubtedly be a vanishing of the difficulties now apparent. The general practitioner is rated as being capable of handling some 90 per cent of his cases; in the other 10 per cent he needs specially trained assistance. Without an authoritative designation as to whom he may turn with reliance he might often be at a loss. Osler, in an address on "Specialism" stated: "No more dangerous members of our profession exist than those born into it, so to speak, as specialists." With the culmination of the present movement, which it is true now appears complicated by over-lapping agencies, one cannot succeed as a specialist through the simple passive process of being just "born." He will have to prove himself.

COMMITTEE ON MEDICAL ECONOMICS*

Hospitals Maintained by the United States Government and Staffed by Medical Personnel in the Pay of the Government

The United States Government owns, maintains and operates certain hospitals, homes, institutes and clinics within the District of Columbia and its suburbs for the free hospitalization and medical treatment of certain of its citizens, whose expenses are defrayed by tax funds contributed in common by both laymen and physicians.

The Medical Society of the District of Columbia recognizes that the United States Government owes free hospitalization and medical care to certain of its citizenry but feels that such service should be strictly limited to *bona fide* cases. It further feels that the private practice of medicine by the Federal Government is unfair competition and should be discontinued as it works an undue hardship on the medical profession. The flagrant abuses of these rights and the ever increasing activities of the United States Government in the private practice of medicine have led the Medical Society of the District of Columbia to make this report and to offer certain recommendations.

The activities of the Federal Government in rendering medical care will be considered in this report under two divisions: (1) the places for medical service and (2) the medical personnel.

I. The Places for Medical Service

The institutions comprising this group fall into 3 general types: (a) homes, (b) hospitals and (c) clinics or dispensaries.

(*a*) *Homes*

The United States Government owns, maintains and operates certain dwelling houses where individuals retired from any branch of military or naval service may receive free board, lodging and medical care. The one such institution in the District of Columbia is the National Soldiers' Home. The medical personnel of this home consists of full-time civilian physicians in the pay of the Government.

The Medical Society of the District of Columbia is fully aware of the need for such institutions and is entirely in accord with their principles and practices so long as their admissions are restricted to *bona fide* cases.

(*b*) *Hospitals*

The Medical Society of the District of Columbia is cognizant of the duty of the Federal Government in providing free medical care for individuals injured in or becoming ill during active military or naval service and is willing to coöperate to the fullest in furthering such care so long as that service is available only to *bona fide* cases.

The Federal Government has erected, maintains and operates hospitals, admitting bureaus and dispensaries throughout the United States and its domains for the individual branches of the service, the following of which are situated within the District of Columbia or its suburbs: Walter Reed Hospital, Army Dispensary, Naval Hospital, Naval Dispensary, Mount Alto Hospital, Veterans' Bureau and Saint Elizabeths Hospital.

The non-commissioned personnel in all branches of active military and naval service consists of individuals who enlist for a specified period of time to the defense of their country and during said enlistment are prohibited from engaging in any other form of gainful occupation. Their remuneration for such service is a very small pecuniary one plus the necessities of life, namely, food, lodging, medical care and in some instances clothing. Their occupation being most hazardous and one which prevents the following of any other remunerative endeavor and their monetary return being so trivial, it is only just that they should be furnished these necessities.

The medical profession appreciates that the American people are indebted to these individuals during their period of enlistment and endorses vigorously the policy of the Federal Government in providing free hospitalization and medical care to these individuals who become ill or are injured while in line of duty, and to the dependent members of their families during said duty.

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* In this issue appear 3 reports from the committee, adopted by the Society, June 5, 1934.

The Medical Society of the District of Columbia feels strongly, however, that such service should be available only to service-connected illnesses and disabilities as provided by law. The Medical Society feels that the abuses of these privileges, so common in the past, work an undue hardship on the taxpayer and the private physician whose only source of livelihood is in rendering medical service to the sick, and since the tax funds from which these Government projects receive their sustenance are contributed in common by both laymen and physicians, it is only just that the United States Government protect them by abstaining from the private practice of medicine.

The commissioned personnel is composed of individuals who have devoted considerable time in preparing themselves for a military or naval career and differ in the main from the non-commissioned group in that they usually serve for life or until retired. The Medical Society of the District of Columbia realizes that these individuals, in choosing this career, deserve utmost consideration, and it is in accord with the Federal Government's attitude toward them and their immediate dependents relative to free medical care so long as their illnesses or disabilities are incurred in or the direct result of their military or naval service.

The Medical Society of the District of Columbia feels that in rendering free hospitalization and medical care to those individuals whose illnesses were incurred in or the direct result of active military or naval service and to the dependent members of the families of said individuals during either the period of their active service or the period of their *bona fide* disability, the Federal Government has discharged its entire obligation. In providing free hospitalization and free medical care to any person or persons not included in the above classification, the United States Government not only works an undue hardship on the medical profession but forces an already tax-burdened American people, including physicians, to assume additional taxation to defray such unjust expense.

It is common practice for Cabinet Members, Senators, Congressmen and others in high official life to enter Government hospitals and receive medical treatment, without charge, at the expense of the tax-paying people of the United States. These public servants are for the most part adequately compensated and their incomes are far above the average for the American citizen, including the physician. Furthermore, their duties entail no hazardous service and their offices are keenly sought by the aspiring citizen. It would appear, therefore, that the American people, having elevated one of its citizens to such an office, should not be required to pay the personal expenses of the incumbent. In some instances entire floors or wings of such institutions have been cleared of other patients and put at the disposal of one or more of these individuals.

While the Medical Society of the District of Columbia realizes it has no jurisdiction over such matters, it feels these practices are obviously so unjust to both the American people and to the medical profession that it wishes to take advantage of this opportunity to go on record as opposing said practices as being unjust to both the people of the United States, as taxpayers, and to the medical profession.

Another even more flagrant abuse is that of admitting to Government hospitals for free hospitalization and free medical care the domestic servants and other employees and their families of individuals in public life and in active military or naval service. This practice cannot be too severely condemned as most unjust, and should be prohibited.

The Medical Society of the District of Columbia heartily approves the stand of the President of the United States in restricting admissions to Government hospitals and feels that *bona fide* cases only should be received. The Society further feels that politics should be eliminated from the administration of these institutions.

The Medical Society of the District of Columbia feels that the records of Government institutions should be available to private physicians and hospitals upon the request of either the patient or his physician. This hardly needs elaboration since it is so obvious that such information is often of vital importance and obviates delay and needless repetition of laboratory and other tests.

The Medical Society of the District of Columbia endorses the strengthening of public health services and advocates more adequate training of medical students in public health matters. It feels, however, that politics should be eliminated from public health administration and that the salaries be such as to attract able men. Their activities, however, should not compete with the private practice of medicine. The Medical Society opposes the wholesale manner in which the Public Health Department is now engaging in the private practice of medicine in the District of Columbia and feels that such practices should be discontinued.

(*c*) *Clinics and Dispensaries*

The United States Government has established in the District of Columbia certain so-called clinics in the Capitol, the House and Senate Office Buildings, and in the following Government Departments: Agriculture, Bureau of Engraving and Printing, Commerce, Interior, Justice, Labor, Navy, State, Treasury, War, etc. The medical personnel of these clinics consists of both full-time physicians in the pay of the Government and civilian physicians who receive a stipulated salary for part-time service and certain non-professional help in the form of nurses, technicians and attendants. The medical service rendered free in these clinics to Government employees varies somewhat in character and extent, but the activities are ever increasing in some; and practically all forms of medical treatment are available, regardless of the nature of the infirmity or how and when incurred.

The Medical Society of the District of Columbia wishes to go on record as being opposed to these clinics, except for first aid stations, both in principle and practice. It feels that the Federal Government, in operating these institutions, is definitely engaging in the private practice of medicine and in so doing enters into unfair competition with, and works an undue hardship on, the medical profession. The Society is unable to understand the necessity for such clinics and sees no reason why the people of the United States should be called upon to defray the medical expenses of private citizens who receive adequate compensation for their services.

II. The Medical Personnel

The medical personnel of federal enterprises falls into 2 groups: (a) part-time and (b) full-time physicians in the pay of the Government.

(*a*) *Part-time Personnel*

These civilian physicians are usually men who have at some time seen active military or naval service but who have retired therefrom. These individuals receive a stipulated monthly income for part-time service and are not governed by routine military regulations.

The Medical Society of the District of Columbia is not opposed to such service; but it does feel that the United States Government should not require these physicians to render free medical care to any person of either sex whose illness was not incurred in, or the direct result of, military or naval service, or to any individual receiving disability or retirement benefits for such service as stipulated by law.

(*b*) *Full-time Medical Personnel*

These individuals are physicians in the military, naval, public health or veterans' administration services and are governed by the general rules and regulations appertaining to all branches of such service. Their work is on a full-time basis, for which they receive a fixed income, based upon their rank, plus free hospitalization, free medical care, retirement benefits and other allowances as determined by law.

The Medical Society of the District of Columbia realizes that the United States Government must maintain an adequate medical department in order to discharge its obligation to those individuals serving their country in a military or naval capacity. It feels also that the Federal Government should furnish to its medical personnel the necessary post-graduate study to properly prepare them for their work. The Society feels, however, that these physicians should not be required to render medical care to any individual not falling into the *bona fide* group, and that they, therefore, be prohibited from engaging in the private practice of medicine, insofar as such private practice utilizes the facilities, equipment and organization of the governmental agencies with which such officers or physicians are connected. The Society's attention has been called to the fact that some of the full-time medical personnel of the United States Military, Naval and Public Health Services are actively engaged in private medical practice in the District of Columbia with the utilization of governmental facilities. The Medical Society feels that this practice should be definitely prohibited and that disciplinary measures should be instituted in cases of infraction, since these individuals are full-time servants of the Government and, as such, are recipients of the benefits thereof. In the private practice of medicine they are entering into unfair competition with the medical profession, and in so doing they are appropriating Government time and materials for their personal use.

As a result of this study your committee offers the following recommendations:

1. That the principles embodied in this report be approved by the Medical Society of the District of Columbia.

2. That Government competition in the practice of medicine be discontinued and that its activities be restricted:

(a) To the care of veterans suffering from *bona fide* service-connected disabilities and diseases, tuberculosis, mental and nervous diseases, and to veterans who are indigent, in accordance with existing law.

(b) To individuals in active military, naval or public health service, and to dependent members of their families, in accordance with existing law.

(c) To such individuals as are pensioned by the Government for past military or naval service as stipulated by law.

(d) To the promotion of public health so long as that service does not encroach upon the private practice of medicine.

(e) To the support of the medical departments of the Army and Navy, Coast and Geodetic Survey, and other Government services which cannot, because of their nature or location, be served by the general medical profession.

3. That the Medical Society of the District of Columbia advocates and will support efforts to repeal the law providing for Government treatment of non-service-connected disabilities.

4. That the medical records of Government hospitals, homes, institutes, bureaus, clinics and dispensaries be available to private physicians and hospitals upon the request of either the patient or his physician.

5. That politics be eliminated from the administration of all medical institutions owned and operated by the United States Government.

6. That the full-time medical personnel of all branches of the military, naval, public health, St. Elizabeths Hospital and Veterans' Administration services be prohibited from engaging in the private practice of medicine, insofar as such private practice utilizes the facilities, equipment and organization of the governmental agencies with which such officers or physicians are connected.

7. That copies of this report be sent to:

(a) The proper Federal Authorities, as follows:
  The President of the United States
  The Chairman, Senate District Committee
  The Chairman, House District Committee
  The Secretary of State
  The Secretary of the Treasury
  The Secretary of War
  The Attorney General
  The Postmaster General
  The Secretary of the Navy
  The Secretary of the Interior
  The Secretary of Agriculture
  The Secretary of Commerce
  The Secretary of Labor
  Veterans' Bureau
  Mount Alto Hospital
  Walter Reed Hospital
  Naval Hospital
  Navy Yard
  Navy Dispensary
  Soldiers' Home
  National Institute of Health
  St. Elizabeths Hospital
  Government Printing Office
  Bureau of Engraving and Printing
(b) The Commissioners of the District of Columbia.
(c) The American Medical Association.

8. That the report be published in the Medical Annals of the District of Columbia, the official publication of the Medical Society of the District of Columbia.

COMMUNITY HOSPITAL DISPENSARIES

The functions and purposes of dispensaries and similar agencies have varied since the time of their origin. This is particularly true of the hospital dispensary. Fundamentally, and for the purpose of this report, the reasons for the existence of hospital dispensaries are defined as follows:

1. For the administering of gratuitous medical care to the indigent sick.

2. For the distribution of medical supplies to the indigent sick.

In place and equipment, except that they do not include hospitalization, their arrangement and administration is analogous to that of the hospitals themselves, and when conducted according to the principles laid down in the Community Hospital Report of the Medical Society of the District of Columbia, their maintenance and operation will be acceptable to the Medical Society of the District of Columbia.

Contrary to their accepted purpose and functions, community hospital dispensaries, in the majority, have developed into sales agencies for the hospitals and through them a service including medical care is offered and sold at a profit to the hospital, although at a disadvantage to, and in gross disregard of the physicians' rights and privileges. It is recognized that dispensaries are utilized by the public as an agency of information to non-indigent patients seeking medical care. However, after ascertaining that the patient seeking information has no family physician, from whom he may obtain care, such information should be limited to furnishing to the applicant a list of those members of the staff who are capable of furnishing the needed care.

Community hospital dispensaries have gradually come to the disregard of ethical methods of assisting non-indigent patients in obtaining adequate medical care and have repeatedly and continually attempted to, and in some instances actually do, sell services which include medical care. Where such services are sold they are sold for special fees, the bargaining nature of which introduces a competitive commercial element which operates with great unfairness to the staff physicians and all other physicians of the community. At the same time, the staff doctors are being coerced into giving the medical care included in the services so offered by the hospital and yet are either not supposed to, or are not permitted by the hospital to charge a fee comparable to that being charged by the hospital.

The administrative personnel and social service departments of the community hospital dispensaries have been coöperative in giving information for the purpose of this study. They too believe dispensary conditions should be improved. Specific illustrations of abuses of the rights of physicians by community hospital dispensaries might be given without limit.

To summarize, the Medical Society of the District of Columbia regards as proper activities of the community hospital dispensaries the following:

1. The medical care of the indigent sick.

2. The ethical prescribing for the distribution without profit of medicines and medical supplies to the indigent sick.

3. First-aid and emergency care.

4. The utilization of patients for teaching clinics.

5. The proper guidance of non-indigent patients seeking contact with a suitable physician.

Reviewing the proper activities of community hospital dispensaries in the care and treatment of the indigent sick, the ethical prescribing for, and the distribution without profit of medicines and medical supplies is an acknowledged and accepted purpose. Your committee believes, however, that this purpose should be accomplished with greater convenience to the doctor and would be accomplished with greater economy to the hospital and patient if, when medicines are prescribed, a sufficient amount of the medicament required is dispensed, so that in any sickness, particularly of a chronic character, unnecessary visits to the dispensary by the patient could be obviated. This is of particular importance to the doctor.

The use of dispensaries for the purpose of teaching clinics constitutes no particular problem of medical economics of the Medical Society of the District of Columbia, but, in the interest of medical education the Society should endorse their use for this purpose provided it does not come in conflict with the accepted fundamental purposes of dispensaries.

It is recommended that in all dispensaries a sign be conspicuously posted at the entrance indicating that the services are available to locally resident, indigent patients only. In the guidance of the non-indigent sick seeking medical care the hospital and its dispensary staff and personnel should bear in mind their obligation to the doctors of the community as well as to those of the staff. It is to the interest of the doctor, the hospital and the patient, that the hospital assist in returning the wandering patient to his family physician. When the patient is opposed to this, the hospital has no obligation to the patient which should cause it to act in prejudice to its ethical obligation to the physicians of the community. When individuals having no regular physician seek information, a list of staff members capable of giving the type of care required may be given to the patient.

Improper and questionable activities include:

1. The medical care of the non-indigent.
2. Free consulting service for family doctor and patient able to pay.
3. The selling of medicaments, medical supplies, urinalyses, physiotherapy, hemogram, X-ray examinations, basal metabolic study, Wassermann test, etc., to the non-indigent.
4. The indiscriminate administration of prophylactic treatment under the guise of public health and community needs to persons able to pay.
5. The care of accident cases beyond the necessities of the emergency.
6. The care of compensation and industrial cases beyond the necessities of the emergency.
7. The furnishing of free medical care to the indigent sick from the contiguous communities of neighbor states.

In reviewing the improper and questionable activities of community hospital dispensaries, the committee feels that it is obviously not only a function of community hospital dispensaries to care for the non-indigent sick but unethical practice to which the staff member lends himself and thereby becomes a party. With some doctors the purpose of dispensaries is so misunderstood or so misapplied that it has been their practice to send private patients to dispensaries for consultation, for diagnostic study, etc., even requesting that a report of the examinations be sent to them. Where the dispensaries have not coöperated in such practices some method of subterfuge has served to obtain the result.

Dispensaries are selling medicaments, medical supplies, urinalyses, physiotherapy, hemograms, X-ray examinations, basal metabolic studies, Wassermann tests, etc., and in some dispensaries an over-the-counter business combined with counter-prescribing, practiced in various ways, is conducted; and all these things are sold at a profit by the hospital to the indigent and non-indigent.

Your committee finds that under the guise of public-health and community needs there has been an indiscriminate administration of prophylactic treatment, such as vaccination, immunization, etc., to persons able to pay. While it must be recognized that a community and public-health need exists, and forms the background upon which this abuse has been developed, a correction of the abuse can be effected by coöperation on the part of the doctor and hospital to the end that a more discriminate and yet effective administration of this type of treatment be secured.

In the care of non-indigent accident cases of any character, including compensation and industrial cases, community hospitals have no function beyond the necessities of the emergency. These cases, however, whether ambulatory or for hospitalization, are being accepted by dispensaries and their care completed by them, either entirely as ambulatory patients, or subsequent to hospitalization for redressings, for reëxamination, etc.; this being done in complete disregard of the interest of the family physician or the physician of choice. Such methods constitute improper practice.

Your committee also recognizes that the contiguous communities of our neighbor states force an appreciable increment of work upon our community-hospital dispensaries and medical profession. The hospitals are reimbursed in some instances, as by contracts with county welfare organizations, but no provision is made to reimburse the doctors of this community for the care of these non-resident patients, the cost of which properly should be borne by the taxpayers of the neighbor states, as is done in their own communities by the employment of county physicians.

There is no doubt that the lack of zoning and the poor liaison between the separate dispensary units should be corrected, and that with a better coördination or centralization of the existing agencies and equipment a more economical and efficient service could be afforded.

To summarize, your committee feels that while there is ample evidence that conditions existing in community-hospital dispensaries operate to the great disadvantage of doctors, and in lesser degree to hospitals, it also feels that staff physicians have contributed to this development by a disregard of their own responsibilities and ethics in the application of dispensary services as follows:

(a) By treating without fee patients able to pay a physician.

(b) By accepting for treatment in dispensaries patients able to pay but who are seeking to desert their obligation to their family physician.

(c) By treating, as members of hospital staffs, patients admitted through hospital dispensaries as described above in (a) and (b).

(d) By submitting to and actively executing community-hospital dispensary regulations which are in conflict with medical professional ethics.

(e) By insufficient interest in social-service and welfare-service activities. Your committee, therefore, makes the following recommendations:

A. That the above outlined principles be adopted by the Medical Society of the District of Columbia.

B. That the Medical Society of the District of Columbia considers it ethical for its members to serve in community-hospital dispensaries:

1. Where only locally resident, indigent patients are registered for treatment.

2. Where medicines and medical supplies are dispensed without profit and only on prescription by the dispensary physician.

3. Where the hospital and dispensary conform to the principles laid down in the adopted Community Hospital Report of the Committee on Medical Economics of the Medical Society of the District of Columbia and to the specific recommendations embodied in this report.

C. That, on adoption, a copy of this report be sent to all hospitals and dispensaries and that a copy be printed in the Medical Annals of the District of Columbia.

The Relation of the Medical Profession to University Hospitals

University hospitals differ in theory from community hospitals, as defined in a previous report of this committee, in respect to primary purpose, ownership and management, and also in respect to the relationship of the official medical staffs.

The primary purpose of such a hospital is to provide the place, under the absolute control of the proprietor university, for assembling sick persons to be used as clinical material in the teaching of medical students. Ownership usually vests in the university, and consequently management is in the hands of the university administrative authority.

The official medical staff of such a hospital consists of physicians appointed by the university primarily to teach in the medical school and hospital and secondarily to perform, on behalf of the patients, the professional duties commonly required of the staff of any hospital. They are customarily paid a salary, if full-time teachers, or an honorarium, if on a part-time basis. However paid, the compensation is primarily for teaching, not for the medical care of patients.

Patients are cared for, gratuitously or on a less-than-cost basis, in a university hospital upon the tacit or explicit understanding that the condition of the gratuity, total or partial, is the use of their persons for teaching purposes. This exchange of values has come to be regarded as an acceptable and proper social arrangement. Happily, the requirements of good teaching imply an excellence of buildings, equipment and professional personnel and services of all kinds which insures to the patients the best of care and treatment and affords an adequate return for the lending of their bodies to medical teaching and research. But the sole purpose of a university, including its hospital, is to educate and to enlarge knowledge by research. The personal benefits derived by patients passing through the hospital are by-products, necessarily consequent but incidental to the primary purpose of the institution.

In the evolution of university hospitals in this country, the benefits obtainable by reason of the concentration of eminent medical teachers and research workers has, in the case of certain of these institutions supported by the funded resources of the parent universities, attracted the patronage of a class of patients not socially or economically in need of eleemosynary care, and having no intention of submitting themselves to use for educational purposes or research. Accepting patronage of this kind, these hospitals depart from the functions of the university and enter the general hospital field, and the opportunities afforded by such patronage for teaching and research become a by-product, limited in value to the staff, visiting and resident, except insofar as the experience, statistical data, and clinical material, such as pathological specimens, etc., may be transmitted "second-hand" to the students. (Here it should be noted that the diseases of the well-to-do are no more valuable nor exceptional for teaching or research purposes than are those of the poor.) Having entered the general hospital field, the practices of university hospitals as they affect the general welfare of the medical profession become the legitimate concern of that profession.

The acceptance, however, of a patronage not required for the teaching needs of the university might conceivably have a social value not to be denied if the benefits of hospitalization in such an institution are not obtainable elsewhere. Moreover, the admission of patients suffering with rare disorders or obscure conditions requiring intensive study, notwithstanding the economic status of the patients, might have the double social value of increasing medical knowledge and of conserving the public health and thus justify the university in going somewhat beyond its sphere. But the social value in every such case should be the determining factor in such a departure from the essential purpose of a university hospital, and the hospital should occupy the position of accepting such clinical material on the basis of the needed social service to the public, on the one hand, and of gleaning the scientific values on the other, rather than that of conducting a business of hospitalization for all comers.

In such university hospitals (if there be any) as are staffed exclusively by the full-time professors and instructors of the medical school, the question of making and disposing of fees for professional services rendered those able to pay therefor has long been a controversial one. It is taken for granted that the cost of hospitalization and the strictly overhead costs of the various laboratory investigations should be paid by the patient when possible; but fees paid for the professional services of physicians rendered personally to the patient and, so far as he is concerned, exclusively for his personal benefit, are in a different category, and their proper allocation cannot be disposed of so easily. That so valuable a service should be paid for when possible by the person receiving it is a fundamental economic truism. But when a university receives money for the person-to-person services of its hospital staff and allocates it to its corporate income, it has departed still further from its proper function and has entered the field of medical practice. This constitutes corporate practice of medicine, which is always unethical and in a number of jurisdictions has been held to be unlawful. Having thus frankly, or covertly, entered the field of the medical profession, the conduct of the university, viewed either as a co-worker or as a competitor, becomes the legitimate concern of the profession.

If the admission of pay-patients to university hospitals were limited to the actual social needs of the community surrounding it—needs not met by other agencies primarily existing for the purpose, or to the rare or obscure cases which serve a peculiar educational purpose, and if such admissions were further limited to patients coming upon the application of their own physicians having knowledge of the propriety of such a diversion from the usual medical and hospital channels, the number of such patients would be so restricted that the participation of the university in their hospitalization might be regarded as an acceptable extension service. The payment of fees by this restricted class of patients direct to the staff or into a pool for the benefit of the staff would be a proper recognition of their services over and above their function as teachers and employees of the university, without creating the alleged division of interest and allegiance which has led some universities to deny to their teachers any income from personal services to patients. At the same time, corporate practice of medicine would be avoided and unfair competition with normally established agencies for the care of the sick would be eliminated.

It is the opinion of this committee that universities are under a peculiar obligation as social agencies to respect the rights and interests of society that creates and supports them. In their relation to the medical profession, there is a vital bond of union springing originally from the body of the profession and joining the university in the medical school. Through this bond, and through it alone, the service of the university as receiver, custodian, creator and propagator of the science of medicine flows to society in general. The body of the profession, moreover, is the parental end of this funicle, and the human flow through its vessels is essential to the life of the school, as its outflow is essential to the growth of the profession. Policies of administration may be the nuclear function of the medical school, but the well-being of the nucleus depends upon the health of the parent body.

The body of the profession has found that corporate practice of medicine, whether by universities or any other corporation, is bad for society, for medical schools and for itself. As receiver and propagator not only of medical science but of the economics and ethics of medicine, the university should teach medical students, before they leave it, what the body of the profession has found to be good for its health and vigor, and should abstain from practices in the medical school prejudicial both to its parent and to its offspring, practices inconsistent with what it should teach and which are a bad example to other corporations.

If what has been said applies to a self-contained medical school, with a complete full-time staff, it applies all the more to any school or hospital dependent in part or in whole upon the gratuitous services of its teachers and clinicians. It should not only respect the collective opinion of the medical profession which supplies the teachers and clinicians, but it should carefully respect their rights and interests.

So far as the particular purposes of the Medical Society of the District of Columbia are concerned, the relations of its members to the two university hospitals in the District of Columbia are to be determined by self-imposed regulations, based upon their consensus of what constitutes fair practices on the part of the hospitals. The Society specifically disclaims any right to determine the administrative policies of any institution other than itself; it hopes, however, so to set forth the mutual obligations of the medical profession and the institutions it serves, that practices prejudicial to the profession will be abandoned in consideration of the services rendered, if not on the basis of economic justice.

The two local university hospitals operate in part for teaching purposes, in part for the general hospitalization of the private patients of private physicians. While they are not conducted for profit, it may fairly be assumed that their operation as community hospitals realizes an income helpful to their maintenance as teaching institutions. The medical and surgical care given patients used for clinical teaching is provided gratuitously by the medical staff, members of this Society. Their honoraria, if any, are paid by the university for their services as teachers. The out-patient departments similarly give medical treatment through the gratuitous services of the staff, likewise members of this Society. Private patients are sent to the university hospitals by clinical teachers acting as private practitioners, or by other physicians not officially connected with the hospital or medical school, the hospitalization being in the interest of the patient alone.

It follows, from the above considerations, that practices of community hospitals of this District which have been declared unacceptable to the medical profession are equally unacceptable when adopted by the university hospitals, so far as they operate as community hospitals, and for the same reasons.

Whereas, From the above general discussion the relations of the university hospitals of the District of Columbia to the medical profession may be reasonably deduced, your committee presents the following resolutions:

Resolved, That the Medical Society of the District of Columbia is opposed to the corporate practice of medicine under any conditions and cannot permit any of its members lending support thereto.

Resolved, That all recommendations relative to community hospitals shall apply equally to university hospitals insofar as they operate as community hospitals.

Resolved, That inasmuch as the Medical Society of the District of Columbia does not desire to limit its members in their participation in the approved activities of hospitals and dispensaries nor to create unnecessary difficulties of adjustments to newly promulgated policies of the Society, the compliance of members with new regulations governing their relations to university hospitals and dispensaries shall not be required until one year shall have elapsed after their adoption.

Resolved, That this report be adopted by the Medical Society of the District of Columbia, both as to principles and conclusions, and that upon such adoption it be published in the Medical Annals of the District of Columbia.

AMERICAN ASSOCIATION FOR THE STUDY OF NEOPLASTIC DISEASES

Meetings at the Mayflower Hotel

September 6–8, 1934

Thursday, September 6:

9:30 A.M. to 12 Noon, and 2 to 4:30 P.M. Lantern Slide Demonstration of Microscopic Pathology. Joseph Colt Bloodgood, M.D., Chairman; Charles F. Geschickter, M.D., Vice Chairman.

7:15 to 9:45 P.M. Symposium on Bone Tumors. Wright Clarkson, M.D., Chairman.

Friday, September 7:

9:30 A.M. to 12 Noon. Radiologic Diagnosis of Neoplastic Diseases. James F. Kelley, M.D., Chairman.

2 to 4:30 P.M. Symposium on Neoplastic Diseases of the Gastro-intestinal Tract. J. Shelton Horsley, M.D., Chairman.

7:15 to 9:45 P.M. Radiation Therapy in Neoplastic Diseases. E.A. Merritt, M.D., Chairman; I. Lattman, M.D., Vice Chairman.

Saturday, September 8:

9:30 A.M. to 12 Noon. Symposium on Neoplastic Diseases of the Breast. Max Cutler, M.D., Chairman.

Members of the Society are cordially invited to attend.

REPRINTS RECEIVED

The following reprints have recently been received for which due acknowledgment is made:

"The Maxillary Antrum and Its Dental Neighbor." Walter A. Wells, M.D., Virginia Medical Monthly, January, 1934.

"Nasal Papilloma, With Report of a Case with an Enormous Nasopharyngeal Extension." Walter A. Wells, M.D., The Laryngoscope, November, 1933.

"Primary Breech Presentations." Douglas E. Cannell, M.D., and Samuel M. Dodek, M.D., American Journal of Obstetrics and Gynecology, April, 1934.

"Malaria Treatment of Dementia Paralytica. Results in 205 Cases After 5 to 11 Years." Walter Freeman, M.D., Watson W. Eldridge, M.D., and Roscoe W. Hall, M.D., Southern Medical Journal, February, 1934.

INTERNATIONAL SOCIETY FOR CRIPPLED CHILDREN

This Society, which includes lay members and members from the profession, meets in Washington in May, 1935. The Board of Directors for the Association for Crippled Children and Disabled Adults of Washington, includes the names of well-known social workers and educators. The President, pursuant to formal action of our Executive Committee, has appointed Drs. Custis Lee Hall and John A. Talbot to represent our Society on the planning committee for the coming 14th Convention.

A NEW TREATMENT FOR PROSTATIC CALCULI

(*Continued from page 222*)

removed by means of the McCarthy instrument (Fig. 2). The largest stone measured 1.8 cm. in its greatest dimension. Convalescence was uneventful except for transient pyelitis, and 1 month later there was no residual urine. Bladder function was without pain and averaged 4-hour intervals.

This case is reported not only because of the rarity of prostatic calculi in young men but also because of their operative removal by modern instrumentation. The prognosis is not ultimate cure but immediate relief of urinary symptoms and perhaps years of comfort.

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III SEPTEMBER, 1934 NUMBER 9

SULPHUR AND CYSTINE IN RELATION TO ARTHRITIS

M. X. SULLIVAN, PH.D.

Research Professor of Chemistry, Chemo-Medical Research Institute, Georgetown University

For a number of years I have been interested in the study of sulphur metabolism in health and disease. The present report deals with certain aspects of these sulphur studies.

In the present state of our knowledge the study of sulphur in relation to vital activities revolves around cystine, cysteine, glutathione, methionine and ergothioneine, especially around cystine and its congeners, cysteine and glutathione. Of the rôle of ergothioneine little is known. Much work is being done on methionine ($CH_3SCH_2CH_2CHNH_2COOH$), and the evidence accumulated seems to indicate that it can replace cystine in part in the diet and in bodily function. The study of sulphur in relation to vital activities, however, still revolves around cystine, cysteine and glutathione. For the cysteine system, Sullivan (1926) developed a colorimetric reaction of the highest specificity and applied it to the quantitative estimation of cystine in foodstuffs (1929, 1931). The Sullivan reaction is primarily a cysteine test but can be used for the estimation of substances which yield cysteine by reduction, by hydrolysis or by a combination of these processes, for example, cystine and glutathione or other cystine complexes. This test depends on the finding that cysteine alone of a long list of compounds gives a beautiful red color with beta napthoquinone monosulphonate in an alkaline-reducing atmosphere and has a degree of specificity far greater than any other test proposed for cystine or cysteine.

Using the Sullivan cysteine reaction as modified to include cystine, that is, after a preliminary reduction to cysteine, as a reliable tool qualitatively and quantitatively, investigations have been made of the cystine content of purified foodstuffs, enzymes, tissue, hormones, hair, nails, etc.

THE CYSTINE CONTENT OF FINGER NAILS

In the case of the finger nails, long known to be rich in cystine, Sullivan and Hess (1932) found that the cystine content of the finger-nail clippings of 6 normal individuals varied from 11 to 13 per cent with an average of 12 per cent, while 1 young arthritic patient diagnosed by his physician as a case of infectious arthritis showed only 8.87 per cent. The finger-nail clippings of this case of arthritis were analyzed once a month for 6 months. At the end of the study the young man, under a regimen of good diet, exercise and vaccine therapy, was in good condition, and the cystine content of his finger nails had risen to 11.3 per cent, within normal levels.

The marked difference between the normals and this 1 case of arthritis suggested the desirability of studying the cystine content of the finger nails of a large number of cases of arthritis in order to determine (1) whether the cystine content of the finger nails was generally lowered in this disease, (2) whether other disturbances in sulphur metabolism could be noted and (3) whether some practical conclusion of use to the medical profession might be deduced.

Accordingly, as detailed by Sullivan and Hess (1934), the finger-nail clippings of 30 normal individuals and of 103 arthritic patients were analyzed for cystine. The normals varied from

10.28 to 13.02 per cent, with an average of 11.69 per cent. The arthritics varied from 7.20 to 13.11 per cent, with an average of 9.77.

Twenty-two per cent of the arthritic patients showed a content of less than 9 per cent of cystine, and 57 per cent showed below 10 per cent of cystine. Only 16 per cent of the arthritics were in normal levels, 11 to 13 per cent. The lowest normal gave 10.28 per cent of cystine in his finger nails. This normal individual had a past history of an attack of arthritis. Taking this low figure as a comparison, 65 per cent of the arthritics were lower, with a general average of 9.08 per cent.

From the data gathered it was noted that in the majority of arthritic cases tested the cystine content of the finger nails was considerably below normal. All the normals and all the patients were of the white race domiciled for some years in the United States. The finger-nail clippings of both normal individuals and arthritic patients were collected in the same way. Before being clipped the nails were cleaned out with a nail file or by dry brushing if necessary but were not washed with water or soap.

SULPHUR THERAPY

Knowing that the body uses sulphur compounds to render injurious material innocuous, and acting on the theory that injurious material reactive with sulphur was present in the arthritic economy, we suggested that 6 patients with low cystine content of the finger nails be given a sulphur therapy in the form of intravenous and intragluteal injections of sulphur diasporal.* This material was chosen because its sulphur was in a colloidal state, with high reactivity, and was already on the market for use in arthritis. The average of the finger nails of these 6 patients before treatment was 8.67 per cent cystine; after 10 to 20 injections, mostly intragluteal, it was 10.78 per cent. All showed clinical improvement, some markedly so. From these results, the conclusion seems established that an analysis of the finger nails is useful in arthritis and gives information as to the effect of sulphur therapy.

POSSIBLE INTERPRETATION OF RESULTS

Among the prominent detoxifying compounds employed by the body in defending itself from injurious material coming from without or formed in the body by micro-organisms are glucuronic acid, an oxidation product of glucose, and the sulphur-containing organic compounds, cystine, cysteine and complexes thereof, such as glutathione. It has been noted by the English school headed by Hopkins (1921, 1929) that glutathione, a tripeptide of cysteine, glutamic acid and glycine, is a constant and necessary constituent of tissue cells. The evidence to date seems to be that glutathione plays an important rôle in cellular respiration, oxidation and reduction, and, as shown by various investigators, in the stimulation of enzymotic activity. Its sulphur is very loosely bound and is readily separated off to aid in detoxication. It might be added that Du Vigneaud (1927) found a high cystine value in insulin and that Sullivan and Smith (1928) found that there was a close parallelism between the loosely bound sulphur and the active principles of the posterior pituitary body. Further, Sullivan and Hess in unpublished work have found cystine in a large number of enzymes and hormones. On a diet lacking in cystine there is no maintenance or growth, and cystine occurs in large amounts in hair, skin and nails and seems to be of value in protecting the organism to some degree against the actinic rays of the sun. Unpublished work by Sullivan and Hess indicate that ultraviolet irradiation has a specific action on cysteine. So far as direct defense is concerned, it was early shown by Baumann and Preusse (1879) and by Jaffé (1879) that if more or less toxic material such as brombenzol is fed to a dog, the entire cysteine molecule is combined with the benzol compound to detoxify it and appears in the urine as a cysteine-brombenzol complex known as mercapturic acid. As is well known, indol formed by intestinal bacteria from the amino acid tryptophane is oxidized, when absorbed, to indoxyl and tied with sulphur and excreted in the urine as indican. Phenol as such, or as formed from tyrosine, is also to a high degree tied with sulphur and excreted. Potent physiological bases such as histamine lose their physiological activity when combined with sulphur, as shown by Pyman (1930). Other examples could be given to show that in the sulphur metabolism the animal body has a ready though limited means of defense. Detoxification seems, indeed, a prominent rôle of the sulphur system including cystine, cysteine and glutathione.* In addition, this system furthers the activity of various enzymotic processes.

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* In later work we have used, with satisfactory results, "Sulfur Colloidal Isotonic" in intragluteal injections.

In the majority of the arthritic cases the low cystine content of the finger nails seems to imply an intoxication factor which draws on the sulphur complexes, in general as well as those mentioned above, and thus diverts the sulphur from its normal channel which would lead to the finger nails' containing at least 11 per cent cystine. From other lines of work we have evidence that other conditions tied up with infection, or, more correctly, the presence of injurious material generated perhaps by microorganisms, give finger nails with a lowered cystine content. This finding does not detract from the special issue that in arthritis the sulphur metabolism is diverted, in the main, from normal channels. For ages there has been a folk-lore as to the value of sulphur in rheumatoid conditions, and the present findings give this idea some scientific background.

The increase of the cystine content of the finger nails of a number of cases of arthritis after the injection of sulphur implies that the sulphur directly or indirectly, after being changed by the body, either combines with the injurious material and thus spares the normal body sulphur complexes from being diverted, or stimulates the general defense mechanism of the body.

CYSTINE CONTENT OF FINGER NAILS COMPARED WITH TOTAL SULPHUR

A number of workers in the field of arthritis have asked whether estimation of total sulphur would be of value in the study of arthritis. For normal nails the cystine content accounts for practically all the sulphur, which on the average constitutes 97 to 98 per cent of the total sulphur. In the case of the arthritic nails, however, the cystine sulphur does not closely parallel the total sulphur and is occasionally much below it. For 12 cases of arthritic finger nails recently investigated in this laboratory the percentage relationship of cystine sulphur to total sulphur was found to be 76.1, 95.6, 82.5, 88.8, 90.5, 89.1, 84.1, 84.2, 93.7, 98.6, 88.2 and 95.7. On the average, for the 12 cases the cystine sulphur is 88.9 per cent of the total sulphur.

Our work with finger nails and colloidal sulphur has been verified in whole or in part by other investigators. Woldenberg (1934) of the Veterans Hospital, Bronx, N. Y., using the Sullivan cystine procedure, found that the finger nail clippings of his arthritic patients ran from 6.5 per cent, the lowest, to 9.8 per cent, the highest. After the first course of 10 injections of sulphur diasporal the cystine content of the finger nails of the same group ran between 11.6 per cent, the lowest, to approximately 13 per cent, the highest. In the majority of cases, he observed that the patients were free from pain after the fifth or sixth injection and that spasticity of the muscles began to disappear. The effusion in the joint gradually became less, and after 3 or 4 weeks of treatment it was practically gone. No ill effect was observed when the sulphur was injected slowly. Other practitioners have written to the same effect, viz., that there is improvement in the clinical condition and return to the normal cystine content of the finger nails. The clinical improvement seems to be greater in patients which slow low cystine content of the nails. Wheeldon and Main (1933) say "the use during the past 2 years of intravenous and intragluteal colloidal sulphur in the form of sulphur diasporal in 250 cases each receiving 10 to 100 injections has led the writer to believe that this material has a definite place in the treatment of arthritis (clinical data soon to be published justifies this statement)."

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* For more information concerning this system see Sullivan, M. Ann. District of Columbia, 1932, **1**, 125.

Senturia (1934) used colloidal sulphur injections in 60 unselected cases of arthritis and rheumatoid conditions, with improvement in 75 per cent of the series. He found it a thoroughly safe remedy well adapted to routine ambulatory treatment, and he concludes that colloidal sulphur deserves a place among the anti-rheumatic remedies. His opinion is that it aids the oxidative processes of cells.

Work on arthritis in this laboratory suggests that finger-nail analysis may contribute to the prognosis and the study of the effect of sulphur treatment long suggested as useful in arthritis.

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A CONSIDERATION OF TISSUE DIAGNOSIS

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Pathology is that branch of medical science which teaches of the changes in structure and function of the body as a result of disease or injury and is probably the broadest subject of the basic sciences. The casual observer looks upon pathology as a study of dead tissue or morbid anatomy without reference to its far-reaching underlying principles. Such reasoning is that of a hundred years ago and has no place in our present-day conception of the subject.

In the early schools of medicine there were 3 main chairs of instruction, Medicine, Surgery and Obstetrics, and the courses given were from the standpoint of therapeusis with little thought concerning the cause and course of disease. When it became apparent that progress could not be made without a clearer understanding of the principles of disease, other chairs were added, such as Anatomy, Embryology, Physiology, Chemistry, and a score or more equally important. These subjects formed the basic foundation upon which our modern medicine is built. There remained, however, a missing chair, or something which could correlate these basic sciences and make them applicable to the progress and treatment of disease. Out of this evolved the chair of Pathology. It is still considered by some a worn-out science as dead as the material with which it deals, but it is not dead and never has been, except in the eyes of those who will not see, since it forms today the basic foundation of our living medicine.

It is customary and convenient in the study of pathology, to consider the etiology of disease together with the abnormal processes. This division of the subject is called general pathology, while the study of detailed lesions in individual organs is spoken of as special pathology. With these 2 main branches we have evolved the department of functional pathology with reference to physiology and morphological pathology which deals grossly with pathological anatomy and microscopically with pathological histology. The science of pathology, therefore, has broken down the partitions which formerly existed between these related sciences, including medicine and surgery, and forms a common meeting ground in our search for truth. Experimental pathology is still another phase, through the pursuit of which some of our greatest advances in the conceptions of disease have been won.

In approaching a pathological problem, many factors must be considered. One is that the changes present, whether gross or microscopic, form only one side of the question, the clinical picture the other, neither being complete by itself. It is, therefore, of the greatest importance that the clinician or the surgeon supplement his request for a pathological examination with a resumé of the cardinal clinical symptoms and physical findings. This not only materially aids the pathologist in his line of logical reasoning, but it adds zest to his labors by enabling him to correlate the symptoms produced with the lesions found. Such a procedure is mutually beneficial and if consistently followed, will develop an analytical mind in the practitioner, without which he must feel a great handicap in his work. The physician should further realize that the pathologist, while confined more or less to his laboratory, is still a physician and can render more satisfactory assistance when the diagnostic problem is studied in relation to the living patient, than for the purpose of building a pathological museum.

Gross pathology is to pathological histology what the individual stone is to the completed building, and the fact that one may be proficient in the analysis of the stone itself, does not imply that he has equal knowledge as a builder. The same holds true of the microscopist and the gross pathologist. One analyzes the problem from his knowledge of the morphology of the cell, its structure and function, staining reaction and method of growth; the other, from his knowledge of normal anatomy, embryology, physiology and the course of disease. They have in common, however, one thing, and that is, that to acquire proficiency one must have patience, repetition of observation, and the ability to use logical reasoning and common sense.

The gross pathologist's work-bench is the autopsy table, for it is here that he sees the macroscopic changes produced by injury and disease. He learns by repetition of observation and touch the size of the organs and their color and consistency, and soon acquires the knack of recognizing at a glance minute deviations from the normal. This, coupled with an ability to reason logically and associate the disclosures with the symptoms and physical findings, lays bare the pages of mystery like an open book. Often the diagnosis is apparent the moment the body is opened; however, this fact should not deter the pathologist from examining each viscus and cavity, as ofttimes the most obvious lesion will be found to be secondary to the malady with which the patient sickened. Even after a most minute and painstaking study of a case, reluctance should always be expressed in stating the actual cause of death except in those cases which are most apparent. The lesions found after death are, as a rule, the marks of disease rather than the cause of death. We do not know, for example, what degree of cerebral hemorrhage, cirrhosis, endocarditis or nephritis necessarily leads to death, for it is obvious that one patient will succumb while another will recover from a more fulminating type of lesion. We have again a group of cases in which no recognizable lesion of consequence can be found that is of sufficient importance to lead to a diagnosis. Here the clinical history is of inestimable value and must be utilized unless one can rest content with such ambiguous diagnoses as status lymphaticus, acute dilatation, shock, or, as Boyd aptly states, a visitation from God.

Let us now turn to the microscopic examination of tissue and consider its relationship and importance to gross diagnosis. Up to the time of Virchow, all pathologic diagnoses were made from the gross appearance of the organs alone. Through his persistent work and scientific research, he published in 1858, "Die Cellularpathologie," which revolutionized the entire science, and modern pathology may properly be said to have begun with this publication. All of the previous conceptions of the nature of disease faded into oblivion before the convincing facts of cytology.

In the examination of gross specimens greater accuracy is obtained when the tissues are examined fresh and as soon after removal from the body as possible. With the microscopic examination of the specimen, however, the tissue must be fixed, and the sooner after removal the better. Any delay predisposes to desiccation or autolysis, which often makes the tissue unfit for diagnostic purposes. This important fact is not sufficiently appreciated by many surgeons, as evidenced by the delay that frequently occurs when specimens removed early in the morning do not reach the laboratory until late in the afternoon.

Any tissue to be examined microscopically should be placed in a fixing solution immediately after excision, in order to preserve the normal cell morphology by arresting decomposition and enzymic action. This requires 4 to 6 hours, after which suitable blocks may be cut, dehydrated and embedded in paraffin. The following day, sections may be cut and stained, and they should be ready for examination within 24 hours. In the removal of a specimen for examination, great care should be exercised in selecting that portion in which the characteristic cellular changes will be found. This area lies between the normal tissue and the site of greatest reaction, the so-called pathologic zone. The study simply of the necrotic center is comparable to the examination of the ruins of Pompeii; the shadows of the cells may persist, but their identity is lost.

Not infrequently regional lymph nodes are submitted with the idea of obtaining the diagnosis of a distant lesion in the drainage area. This may be possible in many cases, but it should be remembered that negative findings in adjacent nodes are never an index to the pathology underlying the suspected lesion.

In the analysis of a stained slide, certain facts should be remembered. One of the most important is that relatively few classes of conditions will be found. For practical purposes, only 4 things can happen to the body, namely, malformations, inflammations, degeneration and neoplasia. The first objectives are to decide from the history of the case and morphology of the cell which class is present and then to analyze that group into its specific components. The microscopist is lost, who in examining a slide jumps aimlessly from one group to another, deciding first on neoplasia, then inflammation, and back again, without due consideration of either.

Microscopic examinations are made, as a rule, to determine whether a given lesion is inflammatory or neoplastic; if the former, is it specific or non-specific; if of the latter, is it malignant or benign? These are the facts around which the entire subject of pathology revolves, since they serve as the guiding hand in the treatment and ultimate course of the disease in the living patient. We must, therefore, not err in our conclusions or surmise from insufficient data, for the ultimate fate of the patient frequently rests on the pathological conclusions.

There are 2 classical methods of preparing microscopic sections for study. One is by the fixed, paraffin or celloidin technic; the other is by the so-called frozen section. In the latter method, fresh tissue is frozen by means of CO_2, cut into thin sections and examined immediately. There are numerous methods and technic for this most valuable procedure, which has in its favor rapidity, but a resultant loss in accuracy. Sections can be made and examined within 2 or

3 minutes by this method, and if clear-cut, can be diagnosed with 100 per cent accuracy. If, however, the tissue reaction has not continued to a sufficient degree, paraffin sections must be made for confirmation.

Frozen sections are usually made with the idea of determining whether a given lesion is malignant or benign and we commonly speak of such procedures as a biopsy. The word is of Greek derivation and literally means inspection of the living. Today, however, it has a limited meaning and is used to designate the microscopic examination of fresh tissue removed from the living body. This question of biopsy is one that confronts the busy surgeon daily, and he must decide whether or not the procedure is justifiable. There is no doubt that there are strong arguments on both sides of the question. Warthin steadfastly maintained that a biopsy was never an emergency operation and that the advantages of the time saved in obtaining a 5-minute diagnosis were lost in the relative inaccuracy of such procedures. Others, such as Bloodgood, are just as emphatic that biopsies are justified and serve as an invaluable procedure. One argument against the biopsy is that incision into a malignant tumor predisposes to metastases. Statistics from the Mayo Clinic, Johns Hopkins Hospital and other large surgical clinics show this to be erroneous, although theoretically possible. Animal experimentation also substantiates the clinical findings.

Wood performed biopsies without special precaution on 100 rats with carcinoma and an equal number of controls. After several months the animals were killed and submitted to a most minute examination, but no difference in metastatic dissemination was observed. In another large group of rats with carcinoma, one series was subjected to daily massage of the lesion, and an equal number of carcinomatous rats were not disturbed. In the examination of these animals a few months later, the ones that were massaged showed much greater metastatic involvement. This would suggest that the biopsy, if dangerous at all, is far less so than repeated manual examinations of the suspected lesion. The diagnostic curettage in cases in which there exists every possible source of dissemination of tumor cells is a routine procedure, yet reluctance is often expressed when there is a lesion in the skin or a nodule in the breast which can be removed in its entirety. The discrepancy here is difficult to explain.

Biopsies may now be taken by special instruments from almost any part of the body, and numerous devices have been perfected with the idea of minimizing trauma. One method that is favored by some is the so-called punch and cautery procedure of Hellwig. Here, instead of incising the tissue it is punched, as with a cork borer, a portion removed, and the tract seared with a cautery. The main objection to this is the invisibility of the operative field and the possibility of removal of tissue outside of the pathologic zone. Regardless of this, the method has many ardent supporters who proclaim it to be the one of choice.

The accepted and safest rule to follow is to expose the lesion with the least possible trauma and if it is small, to remove it en masse. The pathologist can then take sections from several areas and is in a much better position to render an accurate diagnosis within 5 minutes. If he is uncertain and the surgeon is likewise in doubt, no harm will then be done by waiting 12 to 24 hours for paraffin sections, since the primary growth has already been removed and tumor cells in a test tube do not metastasize.

Before a biopsy is decided upon, it is imperative that certain requirements be fulfilled. First, the surgeon should know how and from where to remove the specimen, and second, the pathologist should be one with special training and experience in rendering rapid, positive diagnoses. Without this combination, the purpose of the biopsy is defeated and is much better left undone. Even with the above requirements fulfilled every case deserves special consideration, especially with reference to tumors of the bone. Obviously little harm will be done after the cortex is eroded; however, if this has not occurred, it is considered unwise to break the natural barrier for the sake of obtaining diagnostic material. Innumerable other examples of this type could be cited, indicating that science, special training, knowledge and logical reasoning are the by-words of success.

In conclusion, I would say that animal experimentation and clinical statistics show the biopsy to be a justified and invaluable procedure, provided the above requirements are fulfilled, and one which should be used more often and by those qualified to use it properly.

THE PURPOSES AND VALUE OF THE POSTMORTEM EXAMINATION

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The purpose of postmortem examinations is generally appreciated to a limited extent. Much more service and medical knowledge would evolve from the examination if each of the various groups of individuals concerned directly or indirectly in the making of postmortem examinations did their part. When perfect harmony obtains in the consummation of a work which requires the collaboration of a great many groups of individuals as it does in the postmortem examination, there is also a sense of satisfaction worth having. This article will deal with the professional side of this very important examination.

When a patient's heart stops beating, he is pronounced dead by the physician as a necessary legal requirement. The case is usually thus dismissed from his professional attention unless a postmortem examination is granted. There are, however, certain factors in each case which call for immediate consideration by the physician for his own orientation, and which are important for supplying information to the postmortem examiner. Enumeration of the various factors would be too lengthy, but indicating a few may stimulate thought along this line. The events immediately preceding death should be accurately recorded. The possibility of medicolegal implications should be considered. The reasons for a postmortem examination in the case should be clearly defined. Instructions should be given that surgical drains are to be removed by the postmortem examiner, or, if permission for postmortem examination has been definitely refused, by the person who discharges the body to the undertaker. Embalming should not be permitted unless a postmortem cannot be had without it. If a temperature reading has not been taken immediately preceding death, the rectal temperature should be taken immediately after death. The advisability of the withdrawal of blood for blood culture or chemical examination should be considered in the light of the nature of the clinical findings. A thorough external examination should be made in an endeavor to obtain additional information and possibly the removal of a lesion which may more conclusively solve the problem of the patient's illness should a complete postmortem examination fail to eventuate. The history should be reviewed and an official diagnosis should be made in view of all of the facts available at death. One should thoroughly complete the clinical record of the patient and deliver the body to the postmortem examiner in the condition which will make examination most effective.

The body is then ready to be turned over to the undertaker or to be prepared for the morgue. If the undertaker is to be given charge of the body, one should be assured it will receive the same respect accorded to living persons. All too often in an institution, the dignified and professional attitude is cast aside before the professional services are completed. The body is likely to be handled more roughly than a living patient and may be referred to as a cadaver or "stiff." There are many relatives and friends who are unwilling to admit any such status for their recently departed loved one. The quick correction of this situation would require the coöperation of the hospital administration and the entire medical profession. The postmortem suite should be considered as respectfully as a ward of the hospital. It should also be given the same attention as a ward in a hospital in regard to cleanliness and care of bodies. The conduct of a group attending a postmortem should be precisely that of a group in a hospital ward. Death should cause no immediate change in status other than the transfer from one ward to another. Any delay in the arrival, care or discharge of a body on this ward should be accorded the same reproval as similar irregularities in the handling of patients on the ward of a general hospital.

The authenticity and the method of obtaining permissions for postmortem examinations are important considerations. An authentic permission usually means a written permission from the nearest of kin. If there are no legal kin, the person who has been designated to conclude the business affairs of the deceased and assumes the right of sepulcher should be the responsible individual. The person who makes the postmortem examination of the body is immediately responsible for observance of the legal statutes even though an institution has obtained the permission. Whether or not he will be reimbursed for any liabilities incurred through the failure of the institution to obtain proper permission depends upon the integrity of the institution concerned. These considerations imply that one must have the utmost confidence in the integrity of the institution in which he works and that he must have available a detailed knowledge of the family tree of all bodies examined. When the nearest relative is an outcast of the family, another relative may sign the permission as the nearest of kin. This, however, does not deprive the nearest relative who is lacking in principle from the full consideration of the law of which he frequently is not slow in availing himself. Such is our present law which is from justice, quite a thing apart. The protection from such disagreeable circumstances is proper care in obtaining permissions in order that one may obtain and keep insurance in force. Another solution is for the institution to carry protective insurance for the staff.

The personal factor and reasons for postmortem examinations are important elements in obtaining permissions. Another important factor is the examiner's integrity in staying within the limits of examination allowed by the permission. The reasons for doing postmortems are the channels of usefulness of the information obtained. They are the settling of estates, particularly insurance money, the use of the information by the students and staff in the management of similar cases in the future, the direct bearing the findings may have upon the health of the immediate members of the family, the fact that a considerable part of new information evolves directly or indirectly from the postmortem room, that ideas for problems for further investigation arise and that the case may suggest an important problem for thought or investigation. We have all had experiences in which the value of the postmortem examination comes from an angle that is least expected. For this reason we request that the decision must be made now, since this is the only time the information may be had and recorded to be used in answering future questions of the family. The personal factor is strong enough that the refusal of a single individual should not be interpreted as final. Frequently with the same approach varied only by personal characteristics a second individual enters the confidence of the relative and obtains a permission. Practically any personality is better than a long-distance communication. If a relative is at a distance, it is better to work through a physician or a sympathetic undertaker than to deal with the relative indirectly through any of the long-distance means of communication.

The group of observers which are permitted to attend a postmortem examination is not generally the result of a well thought-out plan. The attendance certainly may be limited by the individual who grants permission for the examination. A near relative or a close friend may be present at any postmortem and this is one of the strongest arguments why the postmortem suite should be conducted like a hospital ward. If permission to attend is left to the discretion of interested medical men, the policy should be conceived on the basis of professional interest. Anyone, therefore, interested directly or indirectly in the study of a branch of medicine or in the care of the patient or the body of the patient, should feel at home in the postmortem room. Attendance at postmortem examinations for morbid curiosity should never be tolerated. The coöperation of individuals in the various branches of medicine is requested in order that the limited space at a postmortem table may be made available to those who may obtain most benefit from the examination.

Facts of interest for the postmortem examiner may start to accumulate any time from the fertilization of the ovum to old age. The entire history of the individual under consideration must be carefully studied before the body is touched. If this is not done the examination will frequently be irreparably bungled. The history should be made an authentic part of the postmortem record. A careful postmortem examination should include the entire history, a careful consideration of the clinical pathology, a thorough examination of the body, and a chronological arrangement of all factors in reference to their probable importance in the illness and death of the patient. It is evident from these requisites that the service of a postmortem record will vary considerably with the completeness of the clinical record and the postmortem examiner's ability to interpret all types of information. Much of the important information must be gotten while the patient is alive and before a general physiological breakdown has occurred. I refer especially to chemical, microbiologic procedures and a study of the various body fluids including the blood. When these studies have not been made at the time that the body comes to the postmortem examiner, the postmortem examination will lose much in effectiveness.

The external examination of the body should be thorough and include a careful examination of the various orifices of the body. There is nothing quite so stimulating to the clinical staff as an occasional diagnosis by external examination at the time of necropsy. When postmortem examinations are thoroughly and intelligently done this situation occasionally obtains.

The examination of internal relationships of the various structures should also be carefully done. The roentgenologist and the clinician should be present or furnish the examiner with specific observations which they wish made and incorporated in the protocol. There should be no disturbance of relationships until each part is thoroughly studied with respect to its surrounding parts, and there should be no cutting of the circulation until chemical, immunological, microbiological and animal pathogenicity studies have been considered. When these studies have been completed, an evisceration of organs or groups of organs may be done so that the study of individual organs may be made. Histologic sections should be made of all tissues. Occasional errors are thus picked up, and the confidence which comes with thoroughness is an important factor in the postmortem examination. Furthermore, no pure scientist would make determinations without the necessary check examinations. The unsuspected findings are frequent enough to establish the advisability of the sectioning of all tissues as a routine procedure. Then too, the sections are ever a part of the permanent record, while gross tissue cannot be so conveniently saved or re-examined.

The quantity of morbid anatomy found at postmortem varies within wide limits. The only finding may be an organism in the blood stream that gained access through some cryptic route. An old man may have only a bit of bronchiolitis. Another individual may be thoroughly riddled by a neoplasm. The lungs of a vigorously built body may be so completely consolidated that it is difficult to understand how the blood could have been oxygenated so long. There is no intelligent way of proceeding with a postmortem unless every bit of the information is weighed in order to determine whether the amount of pathology is sufficient to satisfy all of the factors in the case. Even when this is done one may be unable to account for the mechanism of death in about 0.5 per cent of the cases. The clinical study in the unsolved cases has usually been poor.

Even though the pathologist occasionally makes a diagnosis from external examination and puts the clinician on his mettle, it is true that the examination of internal organs affords the postmortem examiner a better opportunity than the clinician of making an accurate diagnosis upon internal organs. It may be a stimulating procedure to have the pathologist give judgment on hidden lesions from his examination of the clinical data and external examination of the body. This would put the clinician and the pathologist on a fair basis and serve to bridge the gap which frequently appears to exist between them.

All persons present at the postmortem examination should participate. Too often the audience is passive so far as obtaining information is concerned. The period allotted to the examination is usually short. The postmortem examiner, no matter how experienced and thorough he is, may overlook important factors in the history or even in the relationship of organs and lesions in tissues examined. A suggestion from outside sources should be considered and acted upon. The routine of the examination may even be altered to satisfy the wishes of the audience provided the efficacy of the examination is not disturbed. We should not permit the postmortem examiner to do all of the thinking.

Thus far, the important factors for immediate attention following death have been discussed, a permission has been obtained, the entire life history of the body has been reviewed, the postmortem has been attended in a dignified manner, all have participated in the examination, the findings have been presented, a summary has been made and the report has been completed, but the possible usefulness of the postmortem examination has only begun. The dissemination of the information through proper channels and the extension of medical knowledge is much more important than merely making a record of the case available in the archives.

The cause of death seems to be immediately uppermost in the minds of the physician, administrator and undertaker. The patient must be stated officially to have died of some cause and be so entered on the vital statistics record. The examiner should coöperate with the proper recording of the death. Too frequently the information of the cause of death is requested before it can be accurately given, and more frequently the misinterpretation of the various factors in the case gives the wrong impression of the importance of the various factors in the death, and vitiates the value of vital statistics. One example will clarify the point. A person who has carcinomatosis may have a terminal renal failure, since in the end one viscus after another fails and finally the heart stops beating. The immediate cause of death may be entered as uremia. The fundamental consideration is carcinoma. There would be just as much straight thinking in maintaining that the patient died of cardiac failure because the heart stopped working as to say that the patient died of uremia because the kidney stopped functioning. Both organs stopped functioning because the patient had a carcinoma. We must keep fundamental things first if vital statistics are to be worth the cost of recording. We should substitute the word "fundamental" for "immediate" when we consider the cause of death, and we should wait until the postmortem examiner has made a satisfactory report.

The student may read and memorize pathology from any well written and accurate textbook. He may see isolated lesions of diseases as pictures in text-books or as fixed specimens. But the only place that he may obtain the effect of the lesions on the other organs and obtain an idea of the various rates of progress of lesions and the consequences of lesions is at the time of the postmortem. He may also observe how a pathologist obtains information and solves problems in the postmortem room and at conferences where bodies examined postmortem are thoroughly discussed. The information concerning a body examined postmortem for a group of students is disseminated from student to student outside the group. Ultimately the information extends throughout the entire class. It is at postmortem examinations that the student starts to think in terms of pathology.

Every body examined postmortem should be reviewed with the clinical staff, and errors of omission and commission in clinical and postmortem study should be pointed out. All facts and observations should be put into the clinical and postmortem records. If the bowel is cut during operation that fact should be recorded. If foreign bodies are found in the body this fact should be recorded. It is for the physician's protection to have them recorded. These things happen more frequently than is generally believed. The recording will protect another unfortunate physician and act as a stimulus for more care during an operation. All errors should be freely admitted and discussed and plans laid to avoid future similar embarrassing situations. In science there are no secrets, and there are no scientists who do not make mistakes. The importance of the postmortem varies directly with its completeness, the thoroughness and the accuracy of all participants in doing their part and their willingness to frankly record all pertinent information.

I wish to emphasize that if the information obtained from the postmortem examination is to be used professionally it must be gotten from a completed protocol, or directly from the postmortem examination. Second-hand information is often inaccurate. The protocol is not only a reliable record for information but it also indicates who made the study. Further, the original record may contain an addition or a correction. Careful pathologists have long since learned this lesson. They are frequently curious enough to refer even beyond the report to the original antemortem sections. A postmortem examination record should never be considered final. Observations and interpretations may be altered in the light of new knowledge.

There are two important ways of extending our medical knowledge. The one is to study and endeavor to control diseases and situations which appear in the ordinary course of events. The other is to initiate the condition experimentally and try to control it. In the first instance we must be prepared to recognize and appreciate the importance of the unusual. In the latter we may claim ingenuity for experimentation. Careful clinical study, unrelenting follow-up and ultimate postmortem examination of unique diseases taken as one and inseparable are the important sources of the former type of information and should be considered at each examination. The observations made at postmortem may be extended by investigation in cases where the condition may be transferred to animals. If this cannot be done we must wait for subsequent cases to fill in gaps in a chain of biologic knowledge. The possibilities of obtaining information from a combination of chemical and anatomic studies have barely been opened. The possibilities of the postmortem examination as an instrument for the advancement of medical knowledge are limited only by the postmortem examiner's comprehension of the clinical and fundamental branches of medicine.

The conclusion to be drawn from this discussion is that the value of postmortem examinations will vary directly with the intelligence and thoroughness reflected in the medical history and the accuracy and thoroughness of the clinical, laboratory and postmortem examinations. The postmortem record should contain the important information from these various sources. The information should be coördinated and integrated in the postmortem diagnoses. We all have the privilege and should avail ourselves of the right of upholding the dignity of postmortem examinations and of participating in them.

Science Series. No. 14

THE CHEMICAL ACTION OF NERVES

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Until recently the classical physiological teaching was that there existed two main types of bodily control. One was chemical and dominated all slow or continued reactions, such as growth, nutrition, or metabolism, and became essentially the present-day study of hormones and vitamins; while the other, especially adapted for rapid evanescent reactions, was the action of the nervous system. At the present time no doubt exists concerning the essential practical truth of this conception, since on the one hand the actions of various hormonal bodies are sufficiently well known; while on the other, no really rapidly controlled action is known in complex organisms except through the mediation of the nervous system. Physiologists, however, have never lost sight of the fact that, although an organ may be innervated, it still leaves the actual control unexplained, since the ultimate nature of a nerve impulse, its means of production and its action on reaching its destination are as yet unknown.

Possibly the first clue was obtained with the discovery of adrenalin, or epinephrine, for it was quickly noted that this substance had remarkable sympathomimetic properties, and the idea was quickly suggested that not only was the action of the sympathetic prolonged by an associated discharge of adrenalin, but its action was also locally caused by the liberation of adrenalin at the nerve ends.[1] Nothing really was against this view except its novelty. The long latent period and the prolonged after-effects both fitted into the possibility of a chemical liberation at the nerve ends. At the time, however, this hypothesis received such little experimental support that it remained fallow for over 20 years.

The next step curiously enough resulted from some purely scientific experiments on choline derivatives which Hunt[2] was carrying out, probably entirely with the idea, as A. V. Hill would say, of amusing himself. Hunt noted the astonishing activity of the acetyl derivative of choline. Some years later Dale[3] who had encountered acetyl choline in his ergot studies described its faithful reproduction of the action of the parasympathetic, and also pointed out its remarkably evanescent action. This he suggested, as was afterwards shown by Loewi[4] correctly, might be due to an esterase activity of the blood or tissues in consequence of which the acetyl choline would be reduced to the very much less active choline. It happened, however, that the first real proof of the connection between the parasympathetic and acetyl choline was given by Loewi[5] in some brilliant experiments on the isolated frog's heart. Loewi had for years been interested in this particular preparation, and had finally arrived at the idea that some active body was liberated on stimulation of the vagus. Loewi's proof is essentially simple. He stimulated the vagus of a frog's heart which was connected to a tiny reservoir (Straub's cannula), and during the height of slowing transferred the contained perfusion fluid to the cannula of a second similar preparation and by this means reproduced a vagus-like effect in this also. Loewi noted, however, that this new vagus-like activity of the fluid soon disappeared although it could be delayed by cold or acid. Loewi suggested that his "Vagusstoff" was acetyl choline, and proceeded to offer considerable proof in favor of this idea. With most remarkable penetration he now suggested that, as Dale had previously suggested, since acetyl choline might be split by an esterase, it was possible to imagine that physostigmine, which was already known to act by prolonging the effects of a stimulus rather than itself initiating one, might act by preventing the destruction of the acetyl choline (or Vagusstoff); thus naturally it would appear to prolong the action of a stimulus. Loewi's idea was brilliantly successful, and was easily established by direct proof. Normal blood rapidly destroys acetyl choline so quickly indeed that if one makes intravenous injections and withdraws blood into the syringe prior to the injection, the larger part of the acetyl choline may be destroyed before it reaches the general circulation. In the presence of physostigmine, either in the test tube or the intact animal, this destruction is prevented. Stedman[6,7] has shown that complex urethanes, of which physostigmine is one, tend to have this peculiar action of esterases existing in the blood or tissues. The importance of this discovery, apart from its great interest in explaining the action of physostigmine (eserine) is that one is able quite readily to obtain the parasympathetic hormone, since its normally rapid destruction is prevented. Thus within the course of a few years so much evidence has developed that no reasonable doubt can remain of the essential truth of the conception, namely, stimulation of the parasympathetic system leads to the formation of acetyl choline at the nerve ends, which substance acts on the organ concerned and so produces the classical effects. The list of places where this parasympathetic substance, or "cholinergic" substance, as Dale suggests, acts is impressive: heart (frog, Loewi), eye ("Occulomotorstoff," Englehart[8]), salivary gland (Gibbs and Szelöczey,[9] Babkin, Gibbs and Wolff,[10] Babkin and Alley,[11] Beznak,[12] Henderson and Roepke[13]), sweat glands (Dale[14]) and striated muscle (Dale[15]). Two very interesting facts were brought out. The first, noted by Loewi and confirmed by Szelöczey and me, is that after atropine (which normally obliterates not only the action of the parasympathetic system but also of acetyl choline) the "cholinergic" substance is still formed. This of course produces no action in the atropinized animal, but may be transferred to another preparation for demonstration. Atropine then does not "paralyse" the parasympathetic but prevents the parasympathetic substance from acting. The second amazingly interesting fact is that recently from Dale's laboratory has come the report that the same material is formed at the preganglionic terminations of the sympathetic system,[14,15,16,17,18] and thus acts as the stimulant for the sympathetic. From the same source has come also the report that acetyl choline causes the liberation of adrenalin from the adrenals, as might be expected in view of the above discovery. This finding is not nearly so surprising as it might at first appear. For some time there has been a growing opinion that the apparently sharp distinction, which in a few cases has been taught as an antagonism between the 2 parts of the autonomic system, was more apparent than real. With the discovery that acetyl choline is the preganglionic stimulant of the sympathetic, the relation between the 2 classical systems becomes a very intimate one indeed.

Naturally, while these discoveries were being made in connection with the parasympathetic, efforts were directed to establish the same phenomenon for the sympathetic, with the strong probability that adrenalin is the "myoneural junction." Largely due to the efforts of Cannon[19] and his co-workers the same type of result has been discovered for this system also. Cannon has, however, run into certain subsidiary actions which have led him to postulate two sympathetic substances, one of an adrenalin-like nature, the second with somewhat different actions. In view, however, of the recent work of Dale, it may be possible that some of Cannon's reactions can be explained by the liberation of an excess of the preganglionic stimulant, an acetyl choline-like substance. Some evidence supports this view for stimulation in the neck involving the superior sympathetic ganglion, so that perhaps the future may show that only one true sympathetic substance is necessary. Whether the sympathetic substance is the preganglionic stimulant or its automatic co-partner is not yet known.

Quite recently Wolff and his collaborators, using the fact that Tainter[20] discovered some years ago that cocaine potentiates the effect of adrenalin, has been able to demonstrate active adrenaline-like materials washed out from the salivary gland on stimulation of the sympathetic nerves thereto, thus adding support to the conceptions of Cannon, Loewi, Beznak and others.

Our present position is, therefore, that on stimulation of the autonomic system an active substance is liberated at the nerve ends, which in its turn acts on the organ supplied. We have at least partly solved what happens to a nerve impulse at the nerve end. How it produces these materials, and from what, is still a problem.

The question very naturally arises: Is this a function of the autonomic system and peculiar to it, or is it a general type of reaction? The discovery that there is a preganglionic synaptic liberation definitely takes the matter a step further, namely that at any rate this mechanism is not confined to the periphery of nerves, but that it also occurs at synapses. Furthermore, Dikshit[21] has shown that stimulation of the central end of the vagus leads to the production of the "cholinergic" material in the brain, whence it may be washed out. With this in mind we may re-read the work of Sherrington[22] with renewed interest, for this great observer formerly came to the conclusion that active chemicals were probably formed in the spinal cord during its activity, and that potentiation and radiation of reflexes could be best explained on these grounds.

In the light of our present knowledge the Sherrington hypothesis has a high degree of probability, which when once admitted indicates that the whole central nervous system is subject to the same mechanism. The radiations, inductions and other cortical phenomena which Pavlov[23] has described are then possibly to be explained on the grounds of the liberation of suitably active bodies. They offer to the physiologist, pharmacologist and clinician the same possibilities of control such as the autonomic system now does peripherally. The sleep hormone not infrequently described may be an actual entity, although it need not be absolutely specific for this purpose but merely liberated in a suitable place.

Certain considerations arise which for the man in applied medicine, the clinician, are of interest. First, this new work which has definitely gone beyond the stage of theory, rather simplifies the functional control of the body than otherwise, since it shows that in all probability all functions are finally controlled by the activity of powerful pharmacologic bodies. It shows further that one function of the nervous system, its most primitive probably, is the formation of very small amounts of active substances in localized places, thus giving at one and the same time remote and accurately graded control.

That the central nervous system itself may also be controlled by the same mechanism is merely a logical development of this simple idea. This offers no more difficulty in accepting than the fact that the primitive central nervous system has developed into many highly complex forms. So far, however, this mechanism has only been proven for the autonomic system, apart from some observations on the striated muscle, in which case the parasympathetic hormone has also been shown to be produced. That acetyl choline is the mediator for ordinary striated muscle contraction would not accord well with certain well-known facts, namely, that acetyl choline, although producing a slow contraction of muscle, is not able to stimulate the rapid characteristic twitch mechanism. Also, muscle is rather deficient as compared to other tissues in destroying esterase. It seems quite possible that this mechanism may be eventually tied up with tonus in muscle, but it would appear that the substance capable of producing twitch or ordinary contraction in striated muscle must be formed and destroyed within $\frac{1}{1000}$ of a second. A somewhat speedy game to hunt!

The question arises, does the same mechanism essentially exist for sensation as for motor effects? That cannot be definitely answered at this time, but there is at least some evidence in favor of the idea. It is now fairly generally accepted that when tissue is damaged, even lightly, histamine is liberated locally and accounts for many of the local phenomena, especially associated with the vascular changes. Tiny doses of histamine injected into the tissues reproduce the majority of these vascular changes, and also give a similar sensation of burning, itching, or pain, such as a similar degree of injury (as judged by the local changes) might be expected to give. The natural suggestion, then, is that one and the same mechanism is at work, and that peripheral sensation may also be dependent on the production of locally acting drugs. One must not lose sight of the fact, however, that nervous tissue may be stimulated by very many things including practically all physical changes of sufficiently sharp gradient. It is not necessary, then, to postulate the local formation to a chemical substance to account for the well-known reaction, when, for instance, one strikes the ulnar nerve against a table corner.

The light that these studies, which are as yet in an early stage, have thrown upon the functional control, is remarkable. The solid facts that a mechanism exists which produces and destroys an active substance at the ends of nerves, and that the liberated substance may be prevented from acting by "atropine-like" bodies, or prevented from being destroyed by "physostigmine-like" substances, has not only a profound philosophical importance, but also offers further opportunities for study and control of the bodily functions. Already, there have appeared on the market various derivatives of choline accompanied by numerous suggestions, too often based on hasty laboratory work or poorly controlled clinical studies, as to their use on the patient. Acetyl choline, which is probably the naturally formed substance, is presumably of little value to the clinician, unless used in conjunction with physostigmine, because it is so very rapidly destroyed. If a vasodilator of extremely evanescent action (a few seconds) is of value, acetyl choline may be used although at the moment one could not say its value was greater than amyl nitrite for this purpose. For prolonged spasm of vessels (Raynaud's or other local gangrenes) acetyl choline itself offers very little hope of success, unless used along with physostigmine. Physostigmine itself, incidentally, does not seem of great use in these conditions even in doses sufficiently large to produce definite accentuation of the parasympathetic system. Some of the marketed choline derivatives are claimed to have a much more powerful and prolonged action. One firm claims that its product may be given by mouth. I have tested 2 of the best known on animals and have found that neither is as powerful as acetyl choline, although both were destroyed by the blood at a slightly slower rate, thus giving in badly controlled experiments the idea of greater power. Whether they act by mouth or not I am unable to say. Intramuscular injection in anesthetized animals was not productive of a blood pressure reaction, unless one happened to damage a small vein. Over-enthusiasm in the use of these parasympathetic-like bodies is thus to be avoided, and furthermore one should bear in mind that, except for the vascular reactions, pilocarpine is an excellent means of stimulating the parasympathetic system over prolonged periods, yet has found little clinical use. The clinician may also bear in mind that the action of these bodies may be promptly stopped by atropine, so that should dangerous or unpleasant symptoms arise in their use they can be removed with reasonable safety.

Finally I may state that whenever one is dealing with the nervous system acting on a peripheral organ, the same effect (symptom) may be produced by exactly opposite means. Dilatation of the pupil is accomplished by stimulation of the sympathetic system or paralysis of the parasympathetic. Secretion of saliva may be induced by stimulating the nerves, or by causing them to degenerate. Convulsions (epileptic) could be accounted for not only by an increased production of a cortical hormone (motor type) or what amounts practically to the same thing, a decreased rate of destruction, or a paralysis of the inhibiting barrier, such as Pavlov describes.

Cocaine may lead to excitement even amounting to delirium, and cocaine is known to potentiate the effects of adrenalin; atropine, on the other hand, also causes delirium and in its turn is known to block the action of the parasympathetic hormone. Neither to the physiologist nor the clinician is it easy, nor always possible, to be certain whether a nervous sympton is the result of an exaggerated motor effect or a failure of inhibition. Katatonia, for example, might be produced either way. It is still also not certain what is the cause of decerebrate rigidity-stimulation, or the removal of inhibition.

Should the chemical mechanism hold true for the central nervous system as for the periphery, we can hope that to such complicated and difficult questions an answer may be eventually given, and at the same time one has little doubt that great light will also be thrown on many obscure pharmacological as well as physiological questions associated with the function of the central nervous system.

From this work, however, even so far as it has yet been taken, we again receive the old lesson, namely that any good research, however remote

(*Continued on page 253*)

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

PROGRESS IN THE TUBERCULOSIS SITUATION IN WASHINGTON

Due to a great deal of pressure from the Health Department, the Board of Public Welfare, the Washington Tuberculosis Association, the Medical Society of the District of Columbia, lay organizations and the press, progress is finally being made toward the proper control of tuberculosis in the District of Columbia, where the death rate from this disease is shameful. At last it appears that a suitable sanatorium for adult tuberculous patients will soon be erected at Glenn Dale, Maryland, on the same plot of land occupied by the new Children's Sanatorium. The public health record of the District should be the best in the country, since it is the site of the capital of the Nation and is under the control of Congress. Although we may rejoice that the new sanatorium is soon to be built, it is not improper to lament the fact that the institution is not to be made a part of Gallinger Municipal Hospital, where it would be much more accessible to the public and the medical profession. It is logical that Gallinger Hospital should be made the great municipal medical center. It is separated from the main part of the city, and its site will permit it to be made a lovely park. Even after the erection of the proposed sanatorium at Glenn Dale, there will still be need, however, for a suitable building for tuberculous patients at Gallinger Hospital. At present there are between 75 and 100 tuberculous patients, in the hospital, many of whom are segregated in special buildings. These buildings are old, renovated, wooden structures. There are several reasons why a building for tuberculous patients there is necessary: Gallinger Hospital admits many patients with tuberculosis before the disease has been recognized. Many of these patients must wait days, weeks, or months before they can be admitted to the main sanatorium. Very important, also, is the fact that surgical procedures in the treatment of tuberculosis are being employed in a great many patients, and Gallinger Hospital is amply equipped to perform these services. It has a capable and enthusiastic Division of Thoracic Surgery, which is working hand in hand with the medical men interested in tuberculosis. For these reasons and others, the Medical Society should support Dr. Bocock's efforts to develop a satisfactory tuberculosis section at the Gallinger Municipal Hospital.

THE STUDY OF MEDICINE

With the end of summer comes the hustle and bustle which the opening of school entails. Many of the members of our Society are members of the faculties of the medical schools located in the District of Columbia, and their thoughts, perhaps with mingled emotions, must turn to their duties as teachers of medicine. The study of medicine is not confined to medical schools, however. The prescribed medical course is important in giving the student of medicine the fundamental knowledge required for any man to undertake the practice of medicine; but the study of medicine is a life-long labor. Medicine is not a static subject, but a very dynamic one. Besides the fact that one may never hope in his lifetime to master more than a part of existing medical knowledge, there still remains to be acquired the vast new knowledge which each day brings from various sources. Medical literature is so full of things, both true and untrue, that one often becomes discouraged in the attempt to merely "keep abreast of the times." And yet one must always keep trying. By careful selection of his reading material and by attendance at good medical meetings he may advance with the advance of medicine. Critical reading is more important, however, than abundant reading. Teaching medicine is studying medicine, for it requires constant "brushing up," which means learning what is new in the subject one teaches. Also, contact with students keeps one "on his mettle," since no man chooses to be rated down in the eyes of critical students, who expect their teachers to be omniscient and who have an excellent opportunity to compare medical minds. Medical students have not sufficient knowledge themselves to know how little of medicine the average mind can master. The Medical Society attempts to do its part to keep its members "up to the minute" by planning scientific programs which include the presentation of the newer things in medicine and reviews of the older things.

THE PHILOSOPHY OF THE MEDICAL FEE*

H. C. Macatee, M.D.

The only subject thus far considered by the Committee on Medical Economics of the Society which has been the source of controversy centers around what is known as "corporate practice of medicine."

In our report on Community Hospitals this was one of the practices which were listed as unacceptable to the medical profession, and which, if adopted or persisted in by any hospital of that class in this District, would subject the hospital to the official disapproval of the Society.

In view of controversy over certain possible applications of this official disapproval, it seemed to some of us that it might be useful to try to clarify our thinking on the subject by attempting a definition of "the corporate practice of medicine," and to try to find the underlying reasons for the instinctive opposition of the profession to it.

"Corporate practice of medicine" is the offering and rendering to the public for a consideration medical or surgical diagnosis and treatment by an incorporated body of any sort, the membership of which is by persons not licensed to practice medicine; the medical service offered being rendered by physicians under some sort of contract relation to the corporation.

That the medical profession instinctively offers opposition to the invasion of the field of medicine by such corporations is well known. The reasons commonly advanced for the opposition have been many, but, when thought through to fundamentals, it is, I believe, ultimately based on ethical considerations. The ethical principles involved, I further suggest, grow out of the nature of the medical fee and the commodity which that fee is designed to purchase.

A medical fee is the individual contribution of the person needing medical care to the sum paid by society as a whole for the maintenance of a professional body trained and ready to give that care. Stated otherwise, the medical fee, in the aggregate, is society's underwriting of the medical profession. Whatever the future may hold, the medical profession operating as individuals in service to individuals is the social expedient accepted by mankind as the desired instrument for the care of his bodily ills.

Every statistical analysis of the costs of medical care, whatever the source and however hostile to the current arrangements for medical service, reaches the conclusion that the medical profession as a whole is ill paid by the aggregate medical fees which sustain it. The deduction necessarily follows that if the social underwriting of the medical profession barely suffices to sustain it, the sum so underwritten will not bear division for other purposes.

When a corporation offers for a money consideration to provide medical care to the public, such a division of medical fees must result, unless the corporation is composed of the physicians who render the medical service. If the corporation must employ physicians to render the medical service, the fees paid to it must be divided between the cost of employing the physician and the corporate purposes of the organization.

Corporations composed of laymen have been organized here and there for the avowed purpose of selling medical service to the public. Various advantages of their plans of operation have been offered as selling points, but their motive has been profit. Such corporations have in a number of jurisdictions been declared unlawful, on the grounds that they were practicing medicine, that a corporation could not be licensed as required by law, and that to permit the continuance of their operation would be contrary to public policy.

Lacking the legal condemnation of corporate practice of medicine, the nature of the medical fee would still make it an anti-social expedient, for the reason that it constitutes a parasite on the medical profession, to be sustained by society without benefit to society, at additional and unjustified cost in the general underwriting of the profession, or, much more likely, absorbing a part of the general fund at the cost of the vitality and reproductive powers of the profession.

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* Part of a Symposium on the Right of the Organized Medical Profession to Dictate to its Members the Conditions under which they may serve Community and University Hospitals, presented before the Society, May 16, 1934.

Organized medicine should, therefore, oppose corporate practice of medicine as prejudicial to the public interest. To lend support to an activity contrary to public interest is not ethical, and regulations to enforce compliance with this ethical principle when duly adopted are the proper exercise of the authority of organized medicine over its members.

A variant form of corporate practice of medicine has sprung up in the activities of hospitals. Let it be assumed that this development has occurred without conscious realization of the implications of it. The implications probably have not been clear either to hospital authorities who have applied the device to hospital ends, or to the staff physicians who have lent themselves to it.

The fact remains, however, that when a hospital offers for a fee medical service, and retains that fee for its own income, it is engaged in corporate practice of medicine; the fee, in part or in whole, has been diverted from society's underwriting of the medical profession; and the public through an undernourished public servant has suffered. To lend support to an activity contrary to public interest is not ethical, and again organized medicine should so declare it. So much for the nature of the medical fee in the aggregate.

The nature of the commodity which a medical fee is designed to purchase renders corporate practice of medicine by hospitals unethical, as it relates to the individual who pays the fee. As we conceive it, what a patient really desires when seeking medical attention is the face to face contact with a trusted physician, and what he really desires to pay for is the opinion and advice of that man, and for nothing else. In his relation to his patient, the physician is concerned, and properly, not only with his physical welfare but with his economic welfare. When he requests, on behalf of the patient, the services of a consultant, it is to obtain the professional opinion or technical assistance of a trusted individual, whether the consultant be an internist, a surgeon, a roentgenologist, or a pathologist. The opinion or technical assistance is for the personal benefit of the patient, and the attending physician's ethical obligation is to commit the patient to the payment for nothing more than is necessary and useful in his own case.

Hospital upkeep is not a part of what a patient should be required to purchase with his fee. The collection of fees by a hospital for the consultation services of members of its staff, whether clinical or laboratory, and the retention of such fees, in whole or in part, for the general needs of the hospital is a form of fee splitting as obnoxious as it is subtle. To lend support to corporate practice in this guise is unethical conduct on the part of the physician.

The argument is advanced that says, in effect, that members of hospital staffs engaged in laboratory branches are fact-finding workers, properly employees of the hospital, and the scientific facts ascertained by them are the property of the hospital, and vendible to the patient for a fee. The nature of the commodity for which a medical fee is paid makes this argument untenable. The patient who pays the fee has no use for scientific facts alone; what he needs is the application of scientific facts to his own problem in the light of experience, intuition and insight, which is the art of medicine; and art which is institutionalized and commercialized is no longer art. The services of the laboratory staff members are needed, so far as the patient's fee is concerned, in their capacity as consultants, as practitioners of the art of medicine in their own fields, qualities inherent in the men themselves. To split the patient's fee between the laboratory consultant and the general uses of the corporation is unethical, and it should be so declared by organized medicine.

A PLAN TO EVALUATE INDEPENDENTLY SEROLOGIC PROCEDURE FOR THE DIAGNOSIS OF SYPHILIS IN THE UNITED STATES

Since the serologic conferences at Copenhagen and Montevideo, there has been an increased interest in the relative value of serologic tests for the diagnosis of syphilis. At these conferences the test of only one serologist of the United States was presented for consideration. There are a number of excellent serologists in this country, many of whom have described original modifications of the complement-fixation and precipitation tests for syphilis. It is felt that the tests of these workers merit consideration.

The United States Public Health Service is coöperating with the American Society of Clinical Pathologists in the drafting of a plan to evaluate independently serologic procedure for the diagnosis of syphilis in this country. Briefly, the plan contemplates the collection of specimens of blood from at least 1,000 individuals and the distribution of comparable specimens to the laboratories of serologists who have described an original modification of a complement-fixation or precipitation test for the diagnosis of syphilis. The donors of the specimens will be carefully selected so as to measure both the specificity and sensitivity of the serologic procedure. The sending of specimens to workers at considerable distance from the point of collection will be expedited by the use of the most modern transportation facilities, while the delivery of specimens to nearby serologists will be delayed so as to make the delivery time approximate that for those workers at the more remote points.

A committee of 5 members consisting of 2 specialists in the field of clinical syphilology, 2 members of the American Society of Clinical Pathologists, and 1 officer of the United States Public Health Service will organize the plan of study and, after all laboratory reports have been submitted by participating serologists, will interpret the results on the basis of clinical findings. The collection of the specimens will begin about December 1, 1934, and a number of serologists will be invited to take part in the evaluation scheme.

It is possible that the name of some serologist who has described an original modification of a test for syphilis may have been inadvertently omitted. Any serologist desiring to participate will be extended an invitation upon presentation of suitable proof as to the originality of his modification of a serologic test. A brief description of the plan will also be sent to those workers who may be interested.

Correspondence should be addressed to the Surgeon General, United States Public Health Service, Washington, D. C.

ANNUAL MEETING OF THE MEDICAL SOCIETY OF VIRGINIA

Alexandria, Va., October 9–11

The members of the Medical Society of the District of Columbia have been invited, through the president, Dr. R. D. Bates and the Secretary, to attend this meeting which will be held in Alexandria. Those who have been fortunate enough to attend these meetings in the past speak highly of the type of program, both scientific and social, afforded by the hospitable State of Virginia. On Wednesday afternoon, October 10, there will a symposium on medical economics, participated in by Drs. J. C. Flippin, Walter B. Martin and I. C. Riggin. Mr. Edgar Sydenstricker, director of public health activities, Milbank Memorial Fund, will be a guest speaker. Such titles as "Total Thyroidectomy for Chronic Heart Failure," "The Diagnosis of Rocky Mountain Spotted Fever of the Eastern Type," "Wandering Spleen with Torsion of Its Pedicle: Report of a Case," "Gas Bacillus Infections," "Venous Pressure and Body Weight Determinations in Congestive Heart Failure," are noted in the scientific program. Charles S. White, J. Lloyd Collins and Claude Moore, are among the participants in the program from our own membership. The present officers of the Medical Society of Virginia are: R. D. Bates, Newtown, President; F. J. Smith, Abingdon, President-elect; Hugh H. Trout, Roanoke, B. B. Dutton, Winchester, James K. Hall, Richmond, Vice Presidents; Miss Agnes V. Edwards, Richmond, Executive Secretary-Treasurer. Dr. S. B. Moore, 811 Prince Street, Alexandria, is chairman of the Committee on Arrangements.

A CORRECTION

The Annals prints below a letter recently received from Dr. William H. Hough concerning discussion of a paper in a symposium furnished by the Section on Nervous and Mental Diseases, and which appeared on page 221 of the August number. The management is glad to publish Dr. Hough's correction.

August 21, 1934.

Editors of the Medical Annals of D. C.,
1718 M Street, N.W.,
Washington, D. C.

Gentlemen:

I am compelled to enter an objection to my discussion of Dr. Fong's paper as published in the August number of the Medical Annals of the District of Columbia. It is my understanding that the discussions of papers read in the symposium offered by the Section on Nervous and Mental Diseases were not taken down by a Medical Society stenographer but apparently by one privately employed. I was not given an opportunity to correct the proof. My discussion as published is wrong from beginning to end and gives an entirely erroneous idea of what was intended. There are but 14 sentences; 12 of them are entirely incorrect. One, in particular, should be corrected. I did not state that "this last type of paretic gets along as well with *arsphenamine* as with malaria." "*Last type*" is not correctly understood because the previous sentences are all erroneous. Further, it should be particularly noted that "*arsphenamine*" should have been "*tryparsamide*."

Very truly yours,
(Signed) William H. Hough, M.D.

(*Continued from page 248*)

it may appear from the clinic, will some day become part and parcel of the general practitioner's mental or physical equipment in his continual and ever varying attempts to restore functional failures.

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THE AMERICAN RED CROSS

Annual Roll Call

September 15–30, 1934

A most cordial invitation is extended to every citizen of the District of Columbia, who can afford to do so, to renew or establish his or her membership in the American Red Cross. A telephone call—National 8605—to the enrollment headquarters will make available any additional information or forms you may desire. All enrollments are to be mailed or delivered to Mrs. John A. Johnston, Director of Roll Call, 810 15th Street, N. W., Washington, D. C. Checks should be made payable to: District of Columbia Chapter, American Red Cross. Membership cards and buttons will be supplied to all who enroll. The Medical Society of the District of Columbia has annually participated in this campaign. It is hoped 1934 will bring a most satisfactory enrollment.

REPRINTS RECEIVED

The following reprints have recently been received for which due acknowledgement is made:

"A Sign of Fetal Death," J. Bay Jacobs, M.D., Medical Record, February 21, 1934.

"The Value of Blood Transfusion in Obstetrics," J. Bay Jacobs, M.D., Medical Journal and Record, December 7, 1932.

"Device for Insuring Better Manual Control of Electrotome During Prostatic Resection," W. Calhoun Stirling, M.D., Urologic and Cutaneous Review, Vol. XXXVIII, No. 6, 1934.

"Treatment of Prostatic Cancer," W. Calhoun Stirling, M.D., Southern Medical Journal, July, 1934.

"Evipal Anesthesia; A Preliminary Report," Charles S. White, M.D., and J. Lloyd Collins, M.D., The American Journal of Surgery, July, 1934.

"Evipal Anesthesia," Charles S. White, M.D., and J. Lloyd Collins, M.D., Southern Medicine and Surgery, July, 1934.

SOCIETY AND SECTION PROGRAMS FOR OCTOBER

October 3:

"Choked Disk." Dr. Hans Lauber, Professor of Ophthalmology, University of Warsaw.

October 24:

"Present Status of Artificial Pneumothorax." Dr. W. D. Tewksbury.

Other Society meetings in October will have programs of unusual interest. The Section on Internal Medicine will present an out-of-town guest speaker.

Section on Neurology and Psychiatry

October 4:

1. "Cerebellar Astrocytoma in a Young Girl. Presentation of Patient." Dr. H. H. Schoenfeld.
2. "Unilateral Paralysis of Lower Cranial Nerves. Presentation of Patient." Dr. Antoine Schneider.
3. "Tabes Dorsalis with Bilateral Charcot Hips. Motion Picture Demonstration." Dr. H. D. Shapiro.
4. Election of officers for 1934–35.

ASSOCIATION OF MILITARY SURGEONS 42ND ANNUAL CONVENTION

Field Medical Service School
Carlisle, Penna.

October 8–10

The Association, through its President, Major General H. L. Gilchrist, cordially invites members of the Medical Society of the District of Columbia to attend. There will be, in addition to other interesting features on the program, a demonstration of modern field medical equipment.

William Cline Borden, M.D., Sc.D. (1858–1934)

William Cline Borden, M.D., Sc.D., (1858–1934), professor emeritus of surgery and former dean of George Washington University School of Medicine, died at his summer home in Chaumont, N. Y., on August 18, 1934. Dr. Borden, after a distinguished career in the Medical Corps of the United States Army, accepted appointment as dean in the medical department of George Washington University where his ability as an administrator and as a teacher added considerably to the school's prestige. At one time he was professor of surgical pathology in Georgetown University School of Medicine. He imparted to the students not only the technicalities of his subject, but brought to them ideals of professional conduct which will have a continuing influence. He was graduated from George Washington University School of Medicine, then Columbian University, in 1883, becoming a member of the Medical Society of the District of Columbia on April 7, 1909. During the World War he reëntered the service with the grade of Lieutenant Colonel, as chief of surgery at Walter Reed Hospital. His alma mater conferred upon him the honorary degree of Sc. D. in 1931. A founder and a fellow of the American College of Surgeons, he contributed much to medical literature. Dr. Borden was particularly active in the Association of American Medical Colleges.

He is survived by his widow, Mrs. Jennie E. Borden, and two sons, Dr. Daniel LeRay Borden and Major William Ayres Borden, U. S. A., the former an active member of this Society.

Cornelius DeWeese, M.D., (1875–1934), who was the medical director of the Laurel Sanitarium, died September 14, 1934. His work had been largely in the field of psychiatry since his graduation from Jefferson Medical College in 1895. After postgraduate work in Johns Hopkins University he successively served at the Maryland Hospital for the Insane, Saint Elizabeth's Hospital and in institutions under private management. He became a member of the Medical Society of the District of Columbia in 1909. At the time of his death he was a member of the American Medical Association, the American Psychiatric Association and the Medical and Chirurgical Faculty of Maryland. He is survived by his widow, Mrs. Anna M. DeWeese, a daughter, Dorothy M., and a son, William Cornelius.

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III　OCTOBER, 1934　NUMBER 10

MATERNAL MORBIDITY AND MORTALITY IN THE DISTRICT OF COLUMBIA*

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AND

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Washington, D. C.

For a number of years the world has been told through the various Government bulletins that in only one civilized country it is more dangerous to have a baby than it is in the United States. It has repeatedly been stated that the danger of motherhood is greater in the District of Columbia than in any State in the Union. For years the medical profession of Washington has accepted these statements and submitted to the implication of obstetrical inferiority.

In view of the revelations of the Committee on Maternal Mortality in their recent study of conditions prevailing in New York City, this seemed to be an opportune time to look into the results of Washington obstetrics to see whether or not we of the medical profession merit the odium which has become attached to us.

The authors, with the coöperation of Dr. T. F. Murphy, Chief Statistician for Vital Statistics of the Bureau of the Census; Dr. W. C. Fowler, Health Officer of the District of Columbia; Mrs. Reed, Obstetrical Supervisor of Gallinger Municipal Hospital, and Miss Hand, Delivery Room Supervisor of Sibley Memorial Hospital, have attempted to analyze what we consider to be a representative cross-section of obstetrics as practiced in this city.

For the purposes of this paper, we have studied the records of 2,000 cases at Gallinger Municipal Hospital, representing the results obtained with free patients delivered by interns under the supervision of teaching obstetricians; 1,000 cases at Sibley Memorial Hospital, all private patients, 90 per cent of whom were attended by general practitioners; and 500 of our own, as representative of the work of the average obstetrical specialist. The cases in our own group do not include those seen in consultation, and we accept full responsibility for the results.

In this report morbidity is assumed if a patient has a fever of 100°F. on any 2 consecutive days after delivery. This includes cases in which the rise in temperature occurred as early as the first 24 hours postpartum, but excludes proved instances of pyelitis, respiratory infections and mastitis. We feel that, while a temperature of 100°F. for 2 or 3 days is usually of no great importance, it is evidence of infection, and that we must assume the responsibility. This series also includes only those cases in which the fetus has reached the stage of viability, since it is obviously unfair to charge against reputable physicians the morbidity and mortality following abortions.

In the 2,000 cases from the services of Gallinger Municipal Hospital, a fever of 100°F. on 2 or more consecutive days occurred 82 times, giving a percentage of 4.1 per cent; in 1,000 cases at Sibley Memorial Hospital there were 31, a percentage of 3.1 per cent; while in our 500 private cases there were 21, or 4.2 per cent.

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* Read as part of the Presidential Address of the Washington Gynecological Society, May 31, 1934.

The morbidity shown by this cross-section is, therefore, 3.8 per cent. We had hoped at this time to be able to present the results of a large number of institutions for comparison, but the figures are difficult to obtain. The few series reported range from 2.3 per cent to nearly 30 per cent. We feel, therefore, that the figure of 3.8 per cent entitles Washington to a standing of higher than the average in the matter of puerperal infection.

In these 3 groups of cases, the obstetrical practices and technic vary widely. At Gallinger Municipal Hospital, utmost conservatism is practiced. The incidence of operative interference, even in the matter of perineotomy, is kept down to an absolute minimum. Vaginal examinations are made only after the most careful consideration, and rectal examinations are made only when positively indicated. Of our 500 private cases, only 45 were delivered spontaneously. Two hundred and eighty-five were delivered by low or outlet forceps. Midforceps, frequently after manual rotation of fetuses in occiput posterior presentation, were applied 115 times. There were 21 breech extractions, 21 podalic versions and 13 cesarean sections. Perineotomy was performed whenever there was a perineum. Vaginal examinations were made from 1 to 6 times during labor. This was done, of course, only after the patient and physician had been prepared as carefully as for delivery. The morbidity in the 2 groups was almost exactly the same. The Sibley Memorial Hospital group showed a percentage of morbidity decidedly lower than did the other two. In these cases all kinds of obstetrics were practiced, from untra-conservative to wildly radical, from the best possible technic to no technic at all. As a matter of fact, the nursing care which follows delivery has much to do with the occurrence of infection, and due credit must be given to the nursing departments of the hospitals in which these patients were treated.

Mortality statistics are more widely available than are morbidity records. Nearly all tables of maternal deaths, however, contain many cases of abortion and of fatal, non-obstetrical complications occurring during pregnancy, labor and the puerperium.

A study of maternal deaths in 15 states made by the United States Children's Bureau during the years 1927 and 1928 showed a mortality rate of 67 per 10,000 deliveries. In this study an attempt was made to eliminate all deaths which were not due strictly to childbirth. Applying the same criteria to the deaths reported in the District of Columbia between July 1, 1932 and June 30, 1933, we found that in 10,088 deliveries, there were 44 maternal deaths, or practically 44 per 10,000—much below the general average.

In the 2,000 cases at Gallinger Municipal Hospital there were 10 maternal deaths. Of these, 2 at autopsy showed acute miliary tuberculosis and 2 myocarditis. Six died of obstetrical complications, a percentage of 0.3 per cent.

At Sibley Memorial Hospital there was a corrected mortality of 8 in 1,000, or 0.8 per cent. Of the 500 private cases, 3 died, 1 from nephritic toxemia, 1 from postpartum hemorrhage and 1 suddenly during delivery from embolism. This is a maternal mortality rate of 0.6 per cent.

The death rate of our cross-section is 52 per 10,000, or 15 less than the average for the registration area studied by the Children's Bureau.

As compared with the study made by the Committee on Maternal Mortality in New York, which extended over a period of 3 years and cost $50,000, and a similar 3-year investigation now going on in Philadelphia, this presentation, of course, is highly superficial. We feel, however, that our figures give a fair picture of obstetrical conditions in Washington today.

The Purpose of Preventive Medicine.—The first duty of medicine is not to cure disease, but to prevent it. In its simplest terms, therefore, the purpose of the science and art of Preventive Medicine is to apply human knowledge to the prevention of disease. It is the common and universal experience that life is crippled or curtailed by the occurrence of disease, which leads to a greater or less degree of disablement, incapacity and premature death. To prevent or avoid such disease is to lengthen the period of life and make it happier and more effective. Hence we may express the objects of Preventive Medicine as follows:

To develop and fortify the physique of the individual and thus increase the capacity and powers of resistance of the individual and the community.

To prevent or remove the causes and conditions of disease or of its propagation.

To postpone the event of death and thus prolong the span of man's life.—An Outline of the Practice of Preventive Medicine. Sir George Newman, K.C.B., M.D., F.R.C.P. *Extracted from The Health Examiner, October, 1932.*

IODINE-RESISTANT HYPERTHYROIDISM*

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A recent study of the end results in 700 thyroidectomies performed over a period of 5 years at the University of Michigan Hospital afforded an opportunity for a comparison between patients in whom the usual iodine remission occurred and those resistant to a course of iodine.

TABLE 1

The Distribution of Iodine-resistant Goiters with Reference to the Average Preoperative Basal Metabolism

	BASAL METABOLISM, PER CENT					
	+20 to +30	+30 to +40	+40 to +50	+50 to +60	+60 to +70	+70 to +80
Exophthalmic Goiter	1	3	9	9	5	4
Adenomatous Goiter	0	1	1	5	1	2
Colloid Goiter	0	0	0	0	2	0
Total	1	4	10	14	8	6

TABLE 2

Comparison of Data in Cases of Exophthalmic Goiter Having the Usual Response to Iodine and Those Resistant to Iodine

	NUMBER OF CASES	MALE	FEMALE	AVERAGE AGE	AVERAGE DURATION OF SYMPTOMS	PRE-HOSPITAL IODINE	FRACTIONAL OPERATIONS
		per cent	*per cent*	*years*	*months*	*per cent*	*per cent*
Iodine-reactive	236	37	63	37.6	14.8		4
Iodine-resistant	31	48	52	40	12.5	38	41

The value of iodine in the treatment of goiter has been extensively studied in the past decade, and at the present time the rationale for its use in preparation for operation and in the prevention of the adolescent goiter has been proven beyond question.

Since its earliest use, however, iodine has failed in some cases to produce the characteristic remission of symptoms, and at times seems either to have no effect whatever on the disease or to accentuate all of the symptoms which are present. Exophthalmos has been seen by Thompson and Thompson to appear first during the preoperative administration of Lugol's solution, and the patient who reacts to a course of iodine by an increase in the severity of the disease is occasionally seen. Since this resistance to iodine is usually seen in the more severe forms of hyperthyroidism, the management of this group constitutes one of the most difficult problems of 'thyroid surgery' and has stimulated interest regarding the cause, treatment and end-results in the case of the iodine-refractory thyroid gland.

The entire group studied included about an equal number of patients having exophthalmic goiter and toxic adenoma, and a somewhat smaller number with nontoxic or colloid goiter. The distribution of cases with reference to the average basal metabolism is shown in Table 1. Patients with the lower metabolic rates seldom offer serious problems of management, the greatest difficulties being encountered in those in whom the metabolic rate remains persistently at plus 50 per cent and above.

Exophthalmic Goiter

The delineation of exophthalmic goiters resistant to iodine was distinct in considering this series (Table 2). Of 267 cases, 31, or 11.6 per cent, showed complete lack of the usual response to, or were made worse by, the same dose of Lugol's solution (15 drops daily), given over a period of 10 days to 3 weeks after a preliminary rest in bed. The sex incidence was about the same in the 2 groups, and the average age (40 years) only slightly more in the iodine-refractory group than in the larger series.

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* Read before the George Washington University Medical Society, April 21, 1934.

The duration of symptoms is of some interest, since, in attempting to account for the resistance to iodine in the one group, it seemed safe to presume that the disease and symptoms had been present for a much longer time than in the average exophthalmic goiter, and that the refractory stage was the result of the long-continued ingestion of iodine. It will be noted, however, that the average duration of symptoms in the iodine-resistant group is actually 2 months less than in those who showed a satisfactory response to iodine.

TABLE 3

Survey of Goiter in Public Schools of Grand Rapids, Michigan, after 5 Years' Use of Iodized Salt

	YEAR		
	1923	1925	1928
Total examined	26,215	29,792	29,613
Number of girls with goiter	5,236	5,387	2,443
Number of boys with goiter	2,603	2,695	1,681
Total percentage with goiter	30	27	14

A history of the use of iodine before coming to the clinic was obtained in 38 per cent of the cases of exophthalmic goiter refractory to the preoperative administration of Lugol's solution. In some cases the patients had taken iodine in various forms of their own accord; in others the preparation was prescribed by a physician and was taken over a period of weeks or months. In 62 per cent of the iodine-resistant group, however, the only known source of iodine previous to admission to the hospital was iodized salt, the use of which has been general in Michigan since 1924. Although the estimated 400 mg. of iodine so ingested by an adult in a year may be sufficient to interfere later with the preoperative administration of large doses, as shown by Thompson and Thompson, it seems hardly fair to condemn the use of iodized salt on this score, since its value in the prevention of goiter in children has been clearly established. Jackson shows the value of this procedure in the surveys of goiter in school children in a large city in Michigan (Table 3). Among 29,000 children examined, the incidence of goiter has decreased in 5 years from 30 per cent to 14 per cent following the general use of iodized salt.

The incidence of fractional operations for exophthalmic goiter in the University of Michigan Hospital, as elsewhere, has decreased rather steadily in recent years, and at present the procedure is used in less than 4 per cent of thyroid operations.

Cases in which multiple operations are used consist principally of elderly and fragile individuals with marked cardiac damage and long-standing thyrotoxicosis, and cases which fail to show a satisfactory response to the preoperative administration of iodine. A paradox, frequently mentioned, is that iodine, so important in reducing the hazards of thyroidectomy, may by its unwise use be the factor which makes operation unusually dangerous unless carried out by the fractional method.

Adenomatous Goiter With Hyperthyroidism

In this group 273 patients were studied (Table 4). Most of them received iodine before operation for varying periods of time, depending upon the degree of toxicity and the presumptive evidence of thyroid hyperplasia, such as exophthalmos, increased vascularity of the gland and the vasomotor phenomena. In many with mild hyperthyroidism the amount of iodine given before operation was so small that no conclusions could be drawn regarding its effect. As pointed out by Coller and Potter, the most striking observation regarding the preoperative use of iodine in the so-called toxic adenoma of Michigan is the absolute unreliability of the reaction. In nearly one-half of these patients there is no response, favorable or otherwise, due partly to the replacement of the active thyroid acini by areas of degeneration, incapable of utilizing the iodine given.

TABLE 4

Comparison of Data in Cases of Toxic Adenoma Having the Usual Response to Iodine and Those Resistant to Iodine

	NUMBER OF CASES	MALE	FEMALE	AVERAGE AGE	AVERACE DURATION OF SYMPTOMS
		per cent	*per cent*	*years*	*months*
Iodine-reactive	263	16	84	45.9	43.7
Iodine-resistant	10 (3.6 per cent)	30	70	46	20.5

TABLE 5

Comparison of Data of the Three Groups of Iodine-resistant Goiters

	NUMBER OF CASES	MALE	FEMALE	AVERAGE AGE	AVERAGE DURATION OF SYMPTOMS	EXOPH-THALMOS	PRE-HOSPITAL IODINE	FRACTIONAL OPERATIONS	SEVERE POSTOPERATIVE REAC TIONS
				years	*months*				
Exophthalmic	31	15	16	40	12.5	20 or 64 per cent	12 or 38 per cent	13 or 41 per cent	7 or 22 per cent
Adenomatous	10	3	7	46	20.5	3 or 30 per cent	4 or 40 per cent	3 or 30 per cent	3 or 30 per cent
Colloid	2	2	0	41	3	2 or 100 per cent	1 or 50 per cent	2 or 100 per cent	2 or 100 per cent

In many adenomas with marked hyperthyroidism, however, a striking response to iodine is noted before operation, and the postoperative course is unusually free from severe reaction. Since it could not be predicted what the reaction to the preoperative use of iodine would be, its administration in adenomatous goiters with moderate or severe hyperthyroidism was routine in these cases. In only 10 instances in this group (3.6 per cent) was refractoriness to iodine or an accentuation of the symptoms (so-called iodine-induced hyperthyroidism) noted in patients who might be expected to react favorably to the use of Lugol's solution. These patients, although obviously belonging to the adenomatous group, all showed marked toxic symptoms, and in some cases, except for the size and consistency of the thyroid gland, all of the criteria for exophthalmic goiter were present.

A comparison of these iodine-resistant adenomatous goiters with the refractory exophthalmic group, showed a greater incidence of females in the former (70 per cent), due probably to the greater occurrence in females of adenomatous goiters as a whole (Table 5). Exophthalmos was present in 3 (30 per cent). The average age, 46 years, is not strikingly different, and the average duration of symptoms, 20.5 months, although nearly twice as long as in the corresponding group of exophthalmic goiter, is less than half the average duration of symptoms in all adenomas considered.

A history of the use of iodine, previous to hospitalization could be determined in only 40 per cent of iodine-refractory adenomatous goiters, again pointing to iodized salt as the only available source in 60 per cent of the cases.

Fractional operations were done in 3 or 30 per cent of these cases, upon patients with a persistently high metabolism, all of whom had rather severe postoperative reactions following each stage, the initial ligations causing more marked postoperative difficulty than the subsequent lobectomies. One (10 per cent) of this iodine-resistant adenoma group had had thyroidectomy 14 years previously and required a second operation. All 10 of this group are alive and well 2 to 5 years following discharge from the hospital.

Colloid Goiter

Although any mention of colloid goiter in consideration of hyperthyroidism appears irrelevant, 2 cases illustrative of a group are included here because of the unusual course and the absolute discrepancy between the clinical picture and the microscopic appearance of the thyroid following operation. Both of these were males, with an average age of 41, who had had symptoms averaging 3 months only, although enlargement of the thyroid had been present many years. In 1 iodine had been taken over a long period of time in large amount, while in the other there was no history of the use of iodine previous to hospitalization. In both cases the clinical picture was that of severe exophthalmic goiter with a large vascular thyroid, marked vasomotor instability, emaciation, exophthalmos and auricular fibrillation. Lugol's solution was given in each case, with a total lack of any favorable response. Fractional operations were done in both, ligation being the preliminary stage in 1 instance. Pathological studies of the thyroids showed in both cases simple colloid goiter, with complete absence of epithelial hypertrophy, and little or no lymphoid tissue; the epithelium, in fact, was of a lower type than that commonly seen in simple colloid goiters. Both of these patients were entirely well 4 years after operation.

Comment

Although the iodine-refractory phenomenon in hyperthyroidism has been commonly explained on the long-continued, ill-advised use of iodine alone (Graham, Slemons), it is probable that some other factors, unrecognized at present, are concerned. If any conclusions can be drawn from this small series of patients, 60 per cent of whom received no known iodine previous to hospitalization except iodized salt, Thompson's suggestion must be considered, to the effect that in certain individuals in this group, "Iodine may have no effect upon the disease, the basal metabolism at any time being what it would have been if iodine had just been started." The iodine-resistant thyroid is not common, and it seems probable, if the previous use of iodine were the only factor in the production of a refractory state, that this condition would be seen much more frequently, due to the rather general use of iodized salt and the iodine compounds used as a cure-all for goiter.

The present conception of exophthalmic goiter is that of an extremely broad and variable syndrome, the abnormal activity of the thyroid being only one link in the chain. If the other factors concerned, such as the adrenals, the thymus and the central and autonomic nervous systems, predominate in some individuals with exophthalmic goiter, it is hardly logical to expect iodine alone to exert a uniformly favorable effect upon the course of the disease in all cases.

Although there is at present no proof of the mode of action of iodine, a marked individual variation in the utilization of the drug is clearly demonstrated by the microscopic study of the thyroid glands. Many of these, belonging to the same clinical type, with symptoms of comparable severity, show a totally different response to the same amount of iodine. This is shown by the amount and consistency of the colloid, the type of acinar epithelium and increase in the lymphoid tissue commonly seen. It was in part upon the presence of these lymphoid deposits in the gland that the late Dr. Warthin based his conception of the "Grave's Constitution" and stressed the importance of this constitutional factor in the development and course of hyperthyroidism.

Very little can be added to the present methods used in the management of the iodine-refractory thyroid. The importance of prompt operation, when the maximum iodine remission has occurred, is known to all. The dangers of the use of iodine after this point is passed, or of operating during a period of rising metabolism, have received frequent comment. Coller and Graham have both found that if iodine is stopped entirely for some time, a second remission could be produced by again giving Lugol's solution. It must be recognized, however, that a second reaction to iodine is never as striking as the initial one, and that many patients who have passed the optimum time for operation with regard to the iodine response are never good surgical risks thereafter.

I cannot entirely agree with Jackson, who has found that by greatly increasing the dose of Lugol's solution to 150 drops or more daily, the iodine-resistant thyroid can be satisfactorily managed before and after operation. Omission of all iodine seems the preferable alternative, since the average daily preoperative dose of Lugol's solution containing 90 to 100 mg. of iodine is probably far in excess of what can be utilized by the thyroid.

One cannot fail to be impressed by the increasing number of pleas in the literature for the return and the more general use of fractional operations in hyperthyroidism. Mortality figures of from 0.2 per cent to 3 per cent in a large series of thyroid operations indicate plainly the influence of the present careful selection of cases, the use of iodine before and after operation and the refinements in surgical technic. Bartlett has said that every death following an operation on the thyroid gland probably represents too much surgery done at that one time. Foss has recently commented in a similar manner and deplores the rather general abandonment of fractional procedures, not because of their lack of usefulness, but because it has become the style to use the one-stage operation.

Certainly, no group of patients requires more careful preoperative study and meticulous judgment in the type and extent of operation than does the iodine-refractory thyroid. Fractional operations here serve perhaps their greatest purpose as a test of operability later, since, as I have pointed out, there are no criteria for estimating accurately the reaction to operation in these cases. Many individuals who might lose their refractoriness to iodine by its omission, together with bed rest, are unable, because of economic conditions, to follow this plan of treatment. In these patients particularly, multistage operations offer the only chance for the safe removal of the thyroid, with the probability of complete rehabilitation of the individual.

Conclusions

1. The prolonged use of iodine appears to be responsible for the production of an iodine-resistant state in 40 per cent of the cases which show this reaction.

2. In 60 per cent of patients refractory to iodine, the only known source of iodine previous to hospitalization is iodized salt.

3. Although occasional individuals may become refractory to iodine from the ingestion of iodized salt, the proved benefit from its use in the control of endemic goiter justifies the continuance of its use in goitrous regions.

4. Some unrecognized factors, other than the activity of the thyroid, are possibly concerned in the production of the iodine-resistant state.

5. Fractional operations provide the safest method for the removal of iodine-resistant thyroid.

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(*Continued on page 268*)

SOME OBSERVATIONS ON POSTERIOR SINUSITIS

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One of the great difficulties in dealing with posterior sinusitis is the fact that the symptoms are frequently obscure and that many a patient "trots" around from doctor to doctor being treated for all sorts of things while the posterior sinusitis remains undiscovered and untouched.

In classical text-book reviews, the ethmoids and the sphenoids are dealt with separately. When the ethmoidal cells are involved, it is usually the whole ethmoidal labyrinth, and the most common condition in which this is encountered is acute rhinitis. Inflammation of the ethmoidal cells may exist as a circumscribed or diffuse empyema of the ethmoidal labyrinth. In either of these forms, the open or closed types may exist. One not uncommonly finds, however, a polypoid degenerative type of ethmoiditis. This is really a change found in the rather frequently encountered hyperplastic type of ethmoiditis.

These ethmoidal involvements may be acute or chronic, and not infrequently an acute exacerbation of a chronic type may occur. The posterior ethmoidal cells empty above the middle turbinate, a region difficult to observe, and disease here can be more easily overlooked. When the discharge from the sinus is sufficiently demonstrable to be noted anteriorly in the olfactory fissure, or posteriorly above the middle turbinate, this in itself is a strong proof of posterior-sinus infection. But even then it is necessary to follow the discharge to its source. The posterior-sinus discharge has a tendency to dry and form crusts in the choana, the nasopharynx and the pharynx. This results in chronic inflammatory change in these parts, and this may extend even further down in the lower respiratory tract. These signs help in making the diagnosis.

There is a chronic latent ethmoiditis which gives rise to general disturbances more than to local disturbances in the nose. It is in this type that one often finds general irritability of the nervous system. Headaches occur on the slightest provocation, and mental depression simulates symptoms of a functional neurosis. It is here that the experienced rhinologist is required to interpret the local nasal condition. There is little local change in the nose, and the general disturbances noted predominate in the picture.

In order to give something of a graphic picture of the classical symptoms in the chronic types of hyperplastic and suppurative ethmoiditis, let me present to you two hypothetical cases. The first is a patient with hyperplastic ethmoiditis. The slightest exposure to cold, such as a draft on the head or feet and wet clothes or shoes, brings on an attack of sneezing, a watery secretion from the nose and ocular symptoms. This patient is known to be very susceptible to 'head colds.' He has frequent headaches at the bridge of the nose, above or below the eyes, and often radiating toward the temporal region. He states that his nasal secretion is thin and watery, often straw-colored, and abundant; at times it may be very annoying. He often experiences an unpleasant musty odor and a bad taste in his mouth in the morning. There may be pharyngeal and bronchial symptoms and even asthma. One is more likely to find that symptoms suggestive of functional neurosis predominate in this type of case.

In the second patient the symptoms vary, depending upon whether his suppurating ethmoids are draining or are partially or completely blocked. When there is free drainage, little if any headache is present. Stagnation of the secretion, however, may cause unendurable headache. It may be at the root of the nose or directly over the vertex, occasionally radiating thence down into the mastoid process. A deep-seated pain in the eyes or a tension on the bulb occurs only when there is obstruction to drainage. This patient finds that there is a tendency for crusts to form in the nose, the pharynx, and even in the larynx. He finds his pharynx is hypersensitive due to rasping of the throat and his effort to clear it of dried crusts. Sooner or later his pharynx takes on a dry appearance. Anosmia is present to some extent. There is cacosmia, a distinctly fetid odor noticed at times in the closed type. Gastric disturbances are occasionally present.

In our classical text-book pictures of sphenoiditis, the same type of classification applies as for the ethmoids; the subjective symptoms are, however, not very constant. Headache, anosmia, and disturbances caused by abnormal secretion are among the outstanding symptoms. The localization and occurrence of sphenoidal headaches are inconstant. The sphenoidal discharge is noted as the well-known symptom of "nasopharyngeal catarrh." There may be symptoms of a general nature: congestive and depressive conditions, lack of energy, inability to remember, and a tendency to hypochondriasis.

The sphenoids are rarely infected alone. The posterior ethmoids at least share in the infection when it does occur. Since the ethmoids drain better, they may at times leave the sphenoids involved alone. This may apply particularly to those cases which follow influenza and some of the other infectious diseases. The predisposing factors that lead to chronic sphenoiditis are deviated septa, polyps and hypertrophic processes which contribute toward closure of the spheno-ethmoidal recess and prevent good drainage. There is no doubt that the chronically diseased sphenoidal sinus presents a wider deviation in the subjective and objective symptoms than any of the other nasal sinuses. As in the case of the ethmoids the symptoms depend largely upon the degree of drainage.

Such is an only too brief description of the more or less familiar, classical symptoms of posterior sinusitis. I shall now attempt to discuss some of the clinical features one may encounter in these posterior sinus infections.

HEADACHES

Infections of the posterior sinuses, whether acute or chronic, may cause many different types of head pains. These pains may vary in character, position, duration, and time of occurrence. Climatic conditions, individual resistance, the type of infection, the sinuses involved and their anatomical structure all play a large part toward symptom production. There are the occipital, the frontal, the parietal and the temporal headaches, and any combination of these may result from posterior sinusitis. Furthermore, Sluder has described a "lower-half headache." It is in this form of headache that he described neuralgic and sympathetic syndromes. In the neuralgic syndrome the pain occurs at the bridge of the nose, the frontal, the zygomatic, the temporal, the upper maxillary and the occipital regions. Also, there is pain in the ear, and a pain about 5 cm. posterior to the external canal of the same side. The occipital pain extends at times to the shoulder, between the shoulder blades, and even down the arm on the side of the sinus involvement. Another type of headache is that caused by hyperplastic posterior ethmoid-sphenoiditis. This type of headache has been described as a frequently recurring, dull headache in the occipital region of varied character, something like migraine. There may be optic-nerve involvement ("vision effect"), and the fifth cranial nerve may be affected. Many remote reflex pains and nerve phenomena have been attributed to an upset in this nerve region of the sphenopalatine ganglion and the vidian nerve. In other words, it seems that this nerve area may act as the trigger to many remote and near body pains and disturbances when there is pathology in and adjacent to the posterior sinuses.

Another type of head pain may occur in posterior sinusitis. It is the pain that occurs in and about the eyeballs and deeply behind the eyes. Occasionally with this pain is a soreness on moving the eyeballs.

NASAL DISCHARGE

Many consider they have a nasal discharge only when they begin to use one or more handkerchiefs a day. But it is not the amount of discharge that determines the severity of the nasal infection. With sinus infection the nasal discharge may be profuse, mild, insignificant, intermittent; it may be watery, thick, tapioca-like or mucilaginous; it may be yellow, white, "greenish-disgusting-like;" it may be offensive in odor; the patient may use a handkerchief or spit out the discharge to get rid of it. But it is in the case with the insignificant or unnoticed discharge, when no handkerchief is used or only a slight postnasal discharge or none is noticed, that we have the real posterior sinus infection difficult to detection.

At times even the rhinologist will have difficulty seeing the discharge with a postnasal mirror or a Holmes' nasopharyngoscope. It is the change in the posterior-sinus area, and in the posterior ends of ethmoidal turbinates that count toward recognition of pathology in this area of the nose.

X-RAY FINDINGS

There are certain positions that will bring out the sphenoids and posterior ethmoids to best advantage. These positions give better definition and permit better interpretation of the anatomical structure and the pathology of those parts. MacMillan devised an anterior-posterior view with the mouth open, whereby the sphenoids are projected beyond the hard palate and each sphenoid is outlined separately. There is the Granger position in which the sphenoids are outlined in the anterior-posterior position. Again, there is the lateral view taken so as to be seen stereoptically. This permits the depth view of the ethmoidal cells and the sphenoids. Finally, there is another view taken by which the X-rays are thrown beneath the inferior maxillary bone up toward the vertex. In this picture both the ethmoidal labyrinth and the sphenoids are shown without overlapping, and with a well taken picture this and the MacMillan method should be the most satisfactory for noting any changes in the density of the two posterior sinus groups. When good pictures are obtained in any of these positions they are of enormous value in the diagnosis of posterior sinusitis, but too much reliance should not be placed upon apparently negative plates.

GENERAL EFFECTS

It seems logical that posterior sinus infection should play its rôle as a focus of infection, although the part it plays may be an insiduous one. The type of infection, the resistance of the patient, the anatomy of the parts involved—all enter as factors in the patient's general complaint.

When a patient states that he tires easily, gets morose or melancholy, has headaches, always feels better in the summer than in the winter, he finds that he gets little sympathy from his friends, because he usually looks well. Furthermore, after this type of patient has been examined and no definite diseased condition found, empiricism begins to get in its work. Many questionable operations, together with tooth extractions, may ensue without any alleviation of the general symptoms. An old chronic sinusitis may be overlooked even after the physician in charge of the case has had the sinuses examined. The congestive and depressive conditions under such circumstances could very readily lead to a diagnosis of "neurosis." Astuteness in diagnostic ability is often required by the rhinologist in many of these posterior-sinus infections.

DIFFERENTIAL DIAGNOSIS AND TREATMENT

Among the easy methods that are used to assist in a diagnosis and even in the treatment of patients with posterior sinusitis, steam inhalations, ephedrine drops and cocaine sprays are among the chief non-surgical means for opening up these blocked posterior airways. This opening of the spheno-ethmoidal area promotes better drainage and ventilation, headaches may be relieved and definite pathologic changes noted. When it is a question, however, of pain originating in the sphenopalatine ganglion or the vidian nerve, topical applications of cocaine to the sphenopalatine foramen in the former case and to the floor of the sphenoid in the latter give relief from these two types of pain. This is another means also to aid in the differential diagnosis.

When non-surgical remedies are insufficient to produce the required aeration and drainage, an operation may be needed. This posterior-sinus region should not be such a dangerous zone that most medical men believe it to be. Radical surgery at times is the only road out of the difficulty.

Illustrative Cases

Case 1: *Left Posterior Ethmoiditis and Sphenoiditis.*

S. F., an unmarried woman about 30 years old, had been treated several months during 1924 and 1925 for headaches by a rhinologist without relief. In 1924 a surgeon had injected the second branch of the left fifth nerve with alcohol with some relief. She underwent various treatments from that time until May 25, 1926, the day that I first saw her. Then she complained of one-sided headache, similar to a "lower-half headache." I found a slightly deviated septum and left lateral pharyngitis. There was a polypoid change of the posterior ends of both middle turbinates, and a similar change at the end of the septum. The spheno-ethmoidal recess of the left side was more occluded than the right. I suggested an intranasal operation on her left posterior sinuses after I had injected her left sphenopalatine ganglion without relief. As this was something new and to her very serious, she decided to go to Philadelphia to see Dr. Ross Skillern and get his opinion. Dr. Skillern's report to me on July 7, 1926, stated: "I am unable to find any evidences of inflammation or infection in the frontal, maxillary or anterior ethmoidal cells. I do, however, find distinct evidences of infection in the posterior cells, particularly of the anterior wall of the sphenoid sinus. If she were my patient I certainly would resect the middle turbinate and open wide the sphenoid. I believe that if that were done and cultures taken of the contents, even though it were not purulent, the examination would show an avirulent strain of micro-organism. I would not anticipate an immediate subsidence of her pain, but believe that this operation would be the beginning of its final disappearance." The patient returned to Dr. Skillern, and on July 29, 1926, he performed a left posterior-ethmoid exenteration and removed the anterior wall of the left sphenoid. He stated then that 90 per cent relief from the head pain should be obtained in 6 months. In the letter to me dated October 4, 1926, the patient stated: "My headaches are very much better. They began to be decidedly better about 4 weeks after the operation, that is, about the middle of August. I still have some pain, some days it hurts quite a bit up in the nose, around the eye it is worse, the pain is very much better in the gums, and in the back of the head it seldom hurts. About 8 weeks ago I started having pain in the gum on the other side, the right side. I thought it was from the tooth, but it is not. Then it began to hurt up in the nose, that tight dry hurt just a little at the back of the head. This pain is not bad, just annoying, and as it worried me I wrote Dr. Skillern about it after it continued. His answer was as follows: 'Assure you that the symptoms you mentioned frequently occur after such an operation as you have undergone, and it has been my experience that they always clear up, so I would not let them cause you too much anxiety. It is merely a question of time and some patience on your part.'" The patient continues in her letter: "I sleep fine now, and am really getting so much better. My head is better than it has been in years, it is wonderful to feel so well."

Comment

The patient had been suffering with headaches for a long time without obtaining relief, although she had used all available opportunities suggested to her to get relief. Her headache was a typical "lower-half headache" described by Dr. Sluder. The second branch of the fifth cranial nerve was injected at the infra-orbital foramen. This to my mind was solely an empirical gesture toward obtaining relief. The unsatisfactory result from that should have been expected. After the sphenopalatine ganglion had been injected without obtaining relief I felt the pain was then coming from the vidian nerve.

Case 2: *Chronic Ethmoiditis, Closed Suppurative Type.*

W. S., an unmarried woman, aged 35 years, came under my care, November 26, 1924. She had had continuous pain in the right temporal region, in the right cheek and in the right eyeball for the past 4 years. During this time she suffered from acute paroxysms lasting several hours. She had had paroxysms on the left side of a similar nature for the past 18 months, and they were about the same in intensity and duration. She had soreness to touch on the right side of her head all the time. There had been soreness back of the right ear. This radiated down the right side of her neck and down her arm and forearm to the fingers. A lower right wisdom tooth had been removed in 1920, just about the time all these pains began. A root had been left at the time of that extraction; this root was extracted 2 years later, and a cyst had formed around the root. About this same time, 1922, a right upper posterior tooth had been removed with a pulp stone. This went into the right antrum. The tonsils had been removed in 1917 on account of frequent sore throats. She had had an appendectomy in 1922, on account of "chronic appendicitis." In March, 1924, she had had a double myringotomy following an attack of grippe. She had had a nasal discharge as long as she could remember; this discharge varied from a clear mucilaginous to a yellow, purulent discharge. Nasal obstruction varied from side to side. She had had occasional dryness of the throat. A constant tinnitus had been present, and at times it awakened her. She had been unable to look at pictures, to read, or to do close work with her eyes, because all that aggravated the headaches. Bending over also increased the intensity of the headaches. She had been afraid to use her right arm because that might have aggravated the pain in the arm. The sinus x-rays showed very definite evidence of exudate in several small ethmoid cells lying along the side of the right sphenoidal sinus. This patient was sent to me by a neurologist, who stated that there was a strong neurotic element present, but that he felt the symptoms may have a basis in the sinuses. The patient refused my operative suggestion for cleaning up the ethmoidal infection, but I understood she went to St. Louis to place herself under the care of Dr. Sluder. He apparently operated upon her ethmoids, and she received immediate benefit.

COMMENT

I believe this case was one of those closed chronic suppurative ethmoiditis cases that necessitated surgery. The anomalous situation of the posterior ethmoid cells in and about the sphenoid area made the case a more difficult one to handle.

Case 3: *Right Posterior Ethmoiditis and Sphenoiditis.*

H. L. E., a married man, aged 38 years, was referred to me by a general practitioner, October 13, 1932, on account of the patient's headaches. In 1919 the patient had had a right mastoid operation, and following this operation he had had intermittent headaches for a period of 4 years. His headaches had changed in type within the past year. At the time of his first visit to me he stated that he had had occipital headaches for the past 9 months. He was usually awakened by them. Beginning in the occipital region, they spread over the right parietal region to the frontal area, and at times they went to the right temporal region. Further, he stated: "My headaches are so bad at times my head is sore to the touch." He had experienced dizziness and occasional sudden attacks of tinnitus. There was some postnasal discharge, watery in consistency. He had had nasal obstruction in the early morning. He noticed "cacosmia" during the past 2 weeks. He tired rather easily. My examination showed his nasal septum deviated to the right, causing obstruction. There was a polypoid change at the posterior end of the right middle turbinate. The faucial tonsils were small and submerged. The right tonsil contained pus; there was tenderness about the right angle of the jaw. An old mastoid scar existed over the right mastoid area; the right ear drum was retracted, and the light reflex and luster were gone. He could only distinguish loud voice in the right ear; hearing in the left ear was about three-quarters normal. The sinus x-rays showed mild infection in the right ethmoids and sphenoid. The patient readily agreed to operation. On October 18, 1932, I performed a submucous resection, a right middle turbinectomy and a tonsillectomy. I saw this patient last time, December 7, 1932. His headaches were a thing of the past. His general health had improved, and his mental outlook on life had altered for the better. He had no complaints.

COMMENT

This patient's headaches and many of the symptoms described I believed the result of his right posterior sinusitis. The septal deviation was an upper posterior deviation to the right narrowing the right spheno-ethmoidal recess, and causing obstruction to the right posterior group of sinuses. The submucous resection and the right middle turbinectomy provided sufficient ventilation and drainage to his right posterior sinuses to promote a cure. The histopathological report on the ethmoid tissue fitted in well with the clinical diagnosis.

Case 4: *Pansinusitis with Vasomotor Rhinitis and Asthma.*

L. S., a married woman, aged 42 years, was referred to me by a general practitioner, June 3, 1927, with a history of vasomotor rhinitis due to pollen susceptibility, and attacks of asthma. She complained of nasal obstruction and a mucous discharge with occasional headaches. The nasal mucous membrane was pale, and pus was coming from the left sphenoid sinus. I did not see the patient again until April 23, 1928. Then she complained of a thick tapioca-like, postnasal discharge, a nasal obstruction which varied from side to side, and increase in her headaches. These latter occurred in the frontal and temporal areas but were greater on the right side. The head pain was of a throbbing nature, but varied from an acute to a dull feeling. She also had a dull occipital headache, and at times her eyeballs felt sore. She had been troubled with attacks of asthma and a cough. The posterior ends of the middle and inferior turbinates, and a similar secretion was noted coming from the left sphenoidal sinus. The anterior group lighted up well. Sinus x-ray pictures were made in 1925, 1928 and 1929; each set showed a progressive change in all of the sinuses, and this change was more marked in the posterior sinuses. In September, 1928, protein tests were made, and she gave moderate reactions to chicken and goose feathers. The pollen tests showed marked reactions to grass pollens and plantain. There was a marked reaction to orris and moderate reactions to house dust and to tobacco. The first plan of attack was to treat the allergy to orris by injection. The second plan began in February, 1929. Then she was treated by injections against the grass and plantain pollens. She was advised as to the best remedy against house dust and feathers. This was followed by autogenous vaccine treatment. The main organism consisted of Streptococcus hemolyticus with some Streptococcus viridans, Staphylococcus aureus and Micrococcus catarrhalis. On November 12, 1929, I performed a double ethmoidectomy and opened both sphenoids under a local anesthetic. The ethmoids showed polypoid changes throughout with pus in the left posterior cells. The right sphenoid contained polypoid mucous membrane, and the left contained polypoid membrane with a thick tenaceous mucopurulent discharge. On April 10, 1930, I performed a double Caldwell-Luc operation. The mucous membrane lining these sinuses showed a polypoid degenerative change throughout. This patient improved a great deal following these treatments and operations. Her asthma returned only when she contracted head colds. I had to wash out the left sphenoid following these head colds, for it seemed to fill up with a mucopurulent discharge. That would relieve her. The patient left Washington to make her home in another city, but I have seen her about twice a year during these past 2 years.

COMMENT

A complicated case of vasomotor rhinitis, asthma and chronic sinusitis required study and coöperative effort to achieve results. The treatments by the general practitioner, the allergist, the bacteriologist and the sinusologist were well coördinated in this case. This team work gave the best results obtainable, as it should in all such cases when the proper coöperative effort is made.

These posterior-sinusitis cases are a few I have selected from my list of sinusitis patients who showed symptoms definitely due to some type of chronic posterior-sinus infection. In all my sinus cases seldom was I able to find a posterior sinusitis without one or more of the anterior group of sinuses being involved in some type of inflammation.

Amongst many of my posterior-sinus cases I found headache victims, who for many years had sought relief in vain, usually because the posterior sinusitis went unrecognized. Empiricism had played a large part in the rôle of relief, the end-result of which was discouraged and suffering patients. I found a few patients in this class with some form of neurosis; the patient had been diagnosed a neurasthenic, a hypochondriac or a neurotic. The treatment had been focussed on that form of disorder, and the posterior sinusitis was neglected or ignored. I believe it is quite possible for a posterior sinusitis to be at the bottom of a patient's depression. Such a patient may be incapable of mental concentration, he may tire easily mentally and physically, and a sleeplessness or a drowziness may be present. The headaches or the infection or both may enter in as causative factors in this type of cases. Whenever any of the above conditions exist with a posterior sinusitis, I believe it is well to treat those sinuses even surgically when necessary, although later it may be found that the mental and physical condition may not have been directly due to the posterior sinusitis.

A number of complications may result from posterior sinusitis. These I shall consider only very briefly, for each should need a special thesis to deal with satisfactorily. First, eye symptoms may be among the first to attract attention, or they may be chiefly noted in the advanced stages of the sinusitis. Among these is retrobulbar neuritis, with varying degrees of loss of vision; this is probably the best known. Orbital abscess is another of the serious complications. Fortunately, one seldom if ever sees cavernous sinus thrombosis or basal meningitis as a chronic posterior-sinus complication. Further, the close proximity of the second, third, fourth, fifth and sixth cranial nerves to either the posterior ethmoidal cells or the sphenoidal sinuses may lead to involvement of these cranial nerves whenever inflammation exists in those sinuses. Anomalous anatomical structure of these posterior sinuses, however, often plays an important part in complications when the posterior sinuses are inflamed. Anosmia from indirect involvement of the first cranial nerve is of frequent occurrence. When the first, second or third branches of the fifth cranial nerve become involved, one may have pain along the course of those branches resembling tics. Enlarged blind spots and contraction of the field of vision were eye findings in some of my posterior-sinusitis patients.

Whenever posterior sinusitis had apparently existed alone, I am inclined to believe that posterior nasal obstruction, usually caused by a septum deviated high posteriorly, or some peculiar anomalous anatomical structure of the posterior sinuses existed. Furthermore, I believe that chronic posterior sinusitis is often overlooked in cases of combined chronic anterior and posterior sinusitis. In many such cases the anterior sinuses alone are treated and the treatment of the posterior sinusitis omitted. I should like to reiterate that I believe astuteness in diagnostic skill is frequently required to detect disease in some types of posterior sinusitis. The X-ray pictures, however, help a great deal in many such cases. Nevertheless, one must regard the clinical findings essential in the diagnosis of posterior sinusitis.

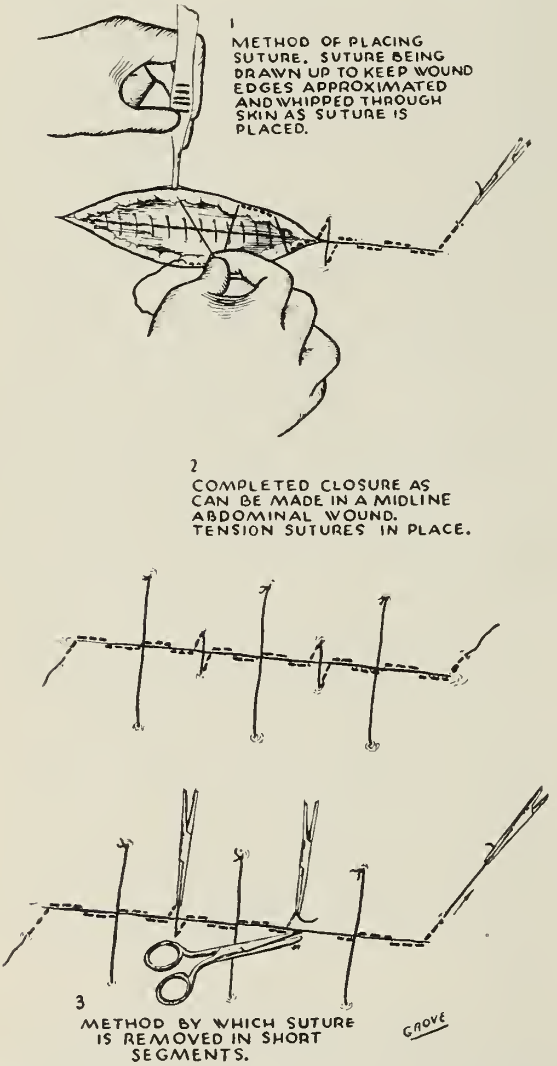
Once the diagnosis of posterior sinusitis has been assured, one should be as conservative as possible in the treatment, but when radicalism is demonstrated to be necessary, timidity and lack of surgical knowledge may lead to poor or disastrous results. In competent surgical hands posterior-sinus operations are not the dangerous undertakings so many of the medical profession have been made to believe.

AN INTERRUPTED SUBCUTICULAR SUTURE

Joseph Horgan, M.D.

Associate in Surgery, Georgetown University School of Medicine

The accompanying diagrams illustrate a new method of suturing the skin which can be used in large and small skin incisions. In the cases in which this method has been used, it afforded all the advantages obtainable with other types of suturing of the skin and, in addition, had the advantage of closely approximating the wound edges, preventing infolding of the skin and giving strength to the line of suture. These factors favor healing by primary intention and reduce the amount of keloid- and scar-tissue formation.


1
METHOD OF PLACING SUTURE. SUTURE BEING DRAWN UP TO KEEP WOUND EDGES APPROXIMATED AND WHIPPED THROUGH SKIN AS SUTURE IS PLACED.
2
COMPLETED CLOSURE AS CAN BE MADE IN A MIDLINE ABDOMINAL WOUND. TENSION SUTURES IN PLACE.
3
METHOD BY WHICH SUTURE IS REMOVED IN SHORT SEGMENTS.
GROVE

Diagrams Illustrating the Interrupted Subcuticular Suture

The method is recommended because of the improved cosmetic effect obtained, since it minimizes the skin markings. It is suggested that a single strand of medium-size silkworm gut be used. At the point where the subcuticular suture is interrupted, a wider bite with the suture needle should be taken in the skin than is ordinarily taken in suturing the skin; here the strand may be broken or continued as desired. Whipping the suture through about every 2 inches facilitates removal.

The interrupted subcuticular suture offers advantages for large wounds comparable to the continuous subcuticular sutures for small wounds.

Rickets and Hyperparathyroidism. Hamilton, B., and Schwartz, C., *Am. J. Dis. Child.*, 1933, **46**, 775.—A large dose of calcium chloride or calcium gluconate by mouth causes a much more marked rise in serum calcium of rachitic rabbits than of normal rabbits. The rise is generally high enough to cause the death of the rachitic animal from hypercalcemia. The authors think that this affinity for calcium in rachitic blood is due to hyperactivity of the parathyroid glands. The following test for the parathyroid hormone was applied to the blood of rachitic and normal animals: the administration of calcium chloride by mouth at intervals to normal full-grown rabbits produces a curve of serum calcium which shows a peak after the first dose and then gradually approaches the initial value. If, however, parathyroid is given previously, the curve continues to rise and reaches higher values than when no parathyroid is given. The blood from rachitic animals gave in most instances a markedly positive test while no reaction was absent with blood from normal animals. The authors conclude that blood from rachitic animals is abnormally rich in either parathyroid hormone or some other substances with identical effect on the serum calcium.—M.B.G. *Abstract reprinted from* Endocrinology, *September-October, 1934, p. 654.*

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(*Continued from page 251*)

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MIDSTERNAL THORACOTOMY*

HARRY HYLAND KERR, M.D., C.M.

Clinical Professor of Surgery, George Washington University School of Medicine

I am not unmindful of the honor the Program Committee has conferred in asking me to present a paper on thoracic surgery. This is the newest field for surgical endeavor and should certainly have a place on the program of our Annual Scientific Assembly.

The interest I have had in this type of surgery dates from a case of successful removal of a bullet from the lung with the use of intratracheal anesthesia in 1913, more than 20 years ago, when this type of anesthesia was new. In 1928, Dr. Warfield and I presented a study of intrathoracic dermoids, and presented a new method of thoracotomy.

The advances of the pioneers of thoracic surgery are reported almost daily, and gradually the operability of intrathoracic lesions is widening. After long and difficult experimentation the physiological barriers have been overcome. The cumbersome pressure cabinets of the past have been abandoned, and even the intratracheal anesthesia has been proved to be unnecessary. With the more complete understanding of the mechanics of respiration and its relation to circulation most intrathoracic manipulations can be carried out under ordinary gas and oxygen anesthesia with a closed mask. The recognition of the importance of mediastinal flutter has markedly decreased the mortality. Although the pleura has not the resistance to infection that its fellow cavity, the peritoneum, enjoys, modern and more successful aseptic methods have decreased the fear of bacterial invasion.

The growing importance of cancer of the lung is a clarion call to surgery to advance its technic in combating this increasing menace. Already several cases of complete pneumectomy have been reported. Successful lobectomy is not uncommon. The removal of mediastinal tumor in one or two stages is becoming more and more frequent. As yet malignancy of the esophagus has defied the surgeon except in a few rare cases. Even the heart has been deliberately attacked.

The basic principles of surgery are, if anything, more important in this field than in any other. Asepsis must be as perfect as possible. Exposure must be adequate, bleeding must be rigidly controlled, and lastly, tissue handling must be gentle.

To perform any intrathoracic operation and follow these tenets the operation should be designed to allow the surgeon to expose the offending lesion with the greatest ease. The source of blood supply should be within easy reach, and tissue damage from powerful retraction or manipulation should be reduced to a minimum.

An adequate exposure of the mediastinum and the hilus of the lung will allow the operator to accomplish these ends most easily. A rib-spreading incision does not fulfil the requirements as well.

The midsternal thoracotomy is submitted as an ideal incision for intrathoracic surgery. Through it the mediastinum is directly invaded, the hilus of the lung is easily reached, and any lesion in the hemathorax is exposed without retraction other than the raising of the flap.

The essential idea is a large trap-door flap that opens one entire pleural cavity. The flap is hinged at the anterior axillary line on the second to the seventh ribs. The ribs being resilient, because of their constant motion, allow the flap to be sprung back without fracture. The jamb of the trap-door is a widely beveled midsternal incision, so that when the intrathoracic manipulations are complete, the door can be tightly closed and fastened with an air-tight suture. The thoracic cage is restored without deformity.

Only 3 cases have come to my hands since this incision was perfected. In the first a large mediastinal tumor was removed in one stage with complete recovery. In the second, the upper lobe of the left lung was removed for chronic bronchiectasis with pneumonitis with complete recovery, and in the third, an intrapulmonary tumor was removed with death on the seventh day postoperatively.

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* Read at the Annual Scientific Assembly of the Society, May 2, 1934.

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

EDITORIAL STAFF
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Subscription $2.00 per year Single Copies, 25¢

CREDIT REPORTING

Have you had a visit from well-dressed, cultured Mrs. O. U? She required extensive treatment for herself and child and expected the best. Her husband is Mr. D'Oo U, who travels. They live in a fashionable neighborhood. Then did you continue to send monthly statements with no results? Were you surprised, perhaps chagrined, after expenditure of time in conscientious service, expenditure of funds for supplies, and lastly expenditure of energy in fruitless attempts to collect a just bill to the amount of some $150.00, to find that both she and her husband had successfully obtained excellent service from just four of your colleagues in precisely the same manner? In every instance collection agencies, suits, all had proven futile. Thanks to preventive processes, long well known and used by department stores, dairies, furniture dealers, etc., Mr. D'Oo U is smilingly refused credit when ordering a new radio on "convenient terms." A telephone call to a credit bureau before his name is entered on the firm's books has revealed evidence of his moral and financial incompetency of trust.

The Medical Society of the District of Columbia, at its meeting on October 3, 1934, voted to accept the recommendation of the Business Affairs Committee and also of the Executive Committee to the effect that a proposition from the Associated Retail Credit Men of Washington, D.C., Inc., whose files are replete with records of individual credit standings, be approved. Rates offered: For the first 5 years after graduation—$5.00 per year; up to 10 years—$10.00 per year; beyond 10 years—$15.00 per year. Forty per cent of the membership is necessary to assure the plan's final adoption. January 1, 1935, is the planned day for inauguration. The yearly sums paid by members will allow telephone clearances for the year. The doctor in calling uses his name and code number. A number of the members of this Society, as individuals, have used the service with much profit. There are no provisions in this plan for collections. The physician may continue to use his favorite method. The service is purely preventive in character. Here is an opportunity to be forewarned and definitely forearmed. The delinquents on lists for collection in the doctor's office must, however, be reported to the credit bureau at stated intervals. The profession in Washington as elsewhere stands ready at all times to assist patients in financing legitimate charges for service; stands ready to aid the worthy in emergencies without monetary reward, but it is most desirable, in fact it is demanded, that knowledge be at hand concerning the patient's status before extensive services are rendered.

MEDICAL MEETINGS*

Army Medical Center

On the third Monday evening of each month from October to May, inclusive, members of the medical and dental professions of the District of Columbia are invited by the Surgeon General to attend scientific presentations under the auspices of the Medical Department of the United States Army. A social hour follows, with dinner at a nominal charge. Distinguished leaders of the medical and allied professions are invited to speak at these meetings. Note the dates on your calendar.

The program on October 15 was as follows:

"Brain Tumors, with Especial Reference to Encephalography as a Diagnostic Procedure." Lieutenant Colonel Sidney L. Chappell, M.C.

"Treatment of Syphilis of the Central Nervous System." Major Ira F. Peak, M.D.

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* Circular letter No. 25, War Department, S. G. O., Wash.

WASHINGTON CLINICAL CLUB

At the Cosmos Club on Tuesday, October 2, 1934, after the service of a most satisfying dinner, officers for the ensuing year were elected as follows:

President, George R. Huffman
Vice President, R. Lyman Sexton
Secretary-Treasurer, Harry S. Bernton
Members of the Executive Committee: Benjamin F. Dean, Jr.
J. J. Mundell
Clapham P. King

This Club has 3 groups of members: (1) George Washington University, (2) Georgetown University, (3) General Group, inclusive of graduates from other universities who are in practice in Washington.

Dr. Joseph J. Mundell, the retiring president, gave an address which was well received. A vote of thanks was extended for the excellent service rendered during the year as the Club's presiding officer.

PAN AMERICAN MEDICAL ASSOCIATION

Washington, D. C. Chapter

On Sunday evening, September 30, 1934, the Pan American Medical Association met in the Pan American Union Building. The program:

"Address of Welcome." Dr. L. S. Rowe, Director General, Pan American Union.
"Diagnosis and Treatment of Lesions of the Cranial Nerves." Walter E. Dandy, M.D., of Baltimore.
"The Intelligence of Life." Desiderio Román, M.D., of Philadelphia.
"Duodenal Ulcer." James F. Mitchell, M.D., of Washington.

On Sunday evening, October 28, at the Spanish Embassy, a scientific program with a social session will be enjoyed by members with their guests.

The present officers include: Dr. Henri de Bayle, Charge d'Affaires of Costa Rica, President; Robert U. Patterson, Surgeon General, United States Army, Vice President; Dr. A. A. Moll, of the Pan American Sanitary Bureau, Secretary.

INTERNATIONAL MEDICAL CLUB

The International Medical Club entertained at dinner at the Mayflower Hotel on Wednesday evening, October 3, 1934, in honor of Dr. Hans Lauber, Professor of Ophthalmology, University of Warsaw. Present as a guest was the Secretary of the Embassy, Edward Wiemtal, representing the Ambassador from Poland. A number of Dr. Lauber's former students were present. Gracious responses by both Dr. Lauber and Mr. Wiemtal were made to introductions by Dr. George B. Trible, President, who presided. This organization meets at dinner upon the occasion of a visit to Washington by outstanding members of the profession from abroad. About 75 members with guests attended the Wednesday night dinner.

COMING MEETINGS OF IMPORTANCE

INTER-STATE POSTGRADUATE MEDICAL ASSOCIATION

Philadelphia; Penna.

November 5-9:

The first International Assembly of the Inter-State Postgraduate Medical Association of North America to be held east of the Alleghenies is to take place in the public auditorium of Philadelphia, Pennsylvania, November 5–9, 1934, with pre-assembly clinics on November 3, and post-assembly clinics on November 10 in the Philadelphia Hospitals.

The Inter-State Postgraduate Medical Association was organized at Freeport, Illinois, September 26, 1916, primarily as a three-state organization (Illinois, Iowa and Wisconsin). Its rapid development as a postgraduate institution soon gave the organization a national and international reputation and it was found advisable for the best interests of the medical profession not to confine the membership to that of the three States, but to extend it and the work of the organization to that of the surrounding States and finally to that of the entire United States and Canada, and through its foreign department, different countries of the world.

The organization is purely a postgraduate medical association. It exercises no political nor legislative duties. Its object is to give to the medical profession the very latest and best there is to be had in medical science in the most practical and beneficial manner, therefore, it is the aim of the international assemblies to present to the profession the approved advancements of medical science and research, not unmindful of the practical side of medical study. To this end diagnostic clinics, orations, symposia and discussions are offered by the leading teachers and clinicians, most of whom are members of faculties or connected with the outstanding medical universities.

In the words of Dr. William J. Mayo, "The Inter-State Postgraduate Assembly is composed of the rank and file of the medical profession who are in good standing in their state or provincial societies. Its members are practitioners who come in direct contact with the people, and what they learn, therefore, has immediate application."

Through the combined efforts of the medical profession of Philadelphia, which is noted for its high medical standing and great institutions of medical education, a stage is being set for a most wonderful medical assembly, which is bound to contribute a great deal of valuable scientific and clinical knowledge to the medical profession of North America. The program has been carefully arranged to meet the demands of the general practitioner, as well as the specialist. Extreme care has been given in the selection of the contributors and the subjects of their contributions.

The Philadelphia County Medical Society will be host to the assembly and has arranged an excellent list of committees that will function throughout the assembly. A most hearty invitation is extended to all members of the profession who are in good standing in their state or provincial societies, to be present and enjoy the hospitality of Philadelphia, "The City of Brotherly Love."

Those who have attended these assemblies in the past have been loud in their praise. The time of the doctors is conserved by the prompt start made at 8 A.M. each day with the holding of the essayist strictly to his time allotment. A program may be obtained by writing to the Secretary, Dr. Tom Throckmorton, Des Moines, Iowa.

SOUTHERN MEDICAL ASSOCIATION

San Antonio

November 13-16:

This year this organization, comprised of practitioners of medicine of the southern states, holds its meeting in San Antonio, November 13-16, 1934. The members of the Medical Society of the District of Columbia may obtain membership by making application. As a requirement for membership, affiliation with a State Medical Society is a requisite. It is interesting to note that the President-elect of the American Medical Association, Dr. James S. McLester of Birmingham, Alabama, active in the Southern Medical Association, will be present and make an address. These meetings are notable for the scientific value of the presentations, and particularly for the social features. San Antonio will, it is definitely assured, live up to all the fine traditions established by the profession resident in the former convention cities in the way of furnishing entertainment. There is planned a post-convention trip through old Mexico. Many of the District of Columbia physicians, we feel sure, will want to participate in the opportunities afforded this fall by the Southern Medical Association. A hearty welcome awaits you in San Antonio. Programs for the coming meeting may be obtained by writing to Mr. C. G. Loranz, Executive Secretary, Southern Medical Association, Empire Building, Birmingham, Alabama. Members, or those eligible for membership in their constituent State Societies are cordially invited to attend. There are especially favorable railroad rates.

PROGRAM, SOCIETY ACTIVITIES

Wednesday, November 14:

1. "The Elliott Heat Treatment in Pelvic Infections." Alec A. Preece, M.D.
2. (a) "The Etiology and Treatment of Functional Dysmenorrhea." Jacob Kotz, M.D.
   (b) "The Normal and Abnormal Physiology of Menstruation." Elizabeth Parker, M.D.
3. "Gastric Syphilis. Illustrated with Lantern Slides and Motion Pictures." Frank L. Biscoe, M.D., Hines, Illinois.

The Medical Society of the District of Columbia is particularly fortunate in holding each year joint meetings with other scientific bodies. The meetings will be held this year as follows:

Friday, November 16:

Joint meeting with the Baltimore City Medical Society, Baltimore, Maryland. The social and gastronomic part of the program will be as ably and efficiently maintained as in previous years by our hosts. The scientific program:

1. "The Malaria Treatment of Neurosyphilis." Walter Freeman, M.D.
2. "The Etiology and Distribution of Encephalitis (St. Louis type) now in the United States." Charles Armstrong, M.D., Surgeon, United States Public Health Service.
3. "Duodenal Ulcer: The Surgical and Roentgenological Aspects." James F. Mitchell, M.D., and A. B. Moore, M.D.
4. "The Preliminary Care of the Cervix in Supravaginal Hysterectomy." Henry L. Darner, M.D.

Transportation will be taken care of through private conveyance or on the railroads. The trains leave Union Station at about 7 P.M. Both railroads have depots within walking distance of Osler Hall, 1211 Cathedral Street, Baltimore, where the meeting will be held.

Wednesday, November 21:

Joint meeting with the Washington Academy of Sciences, auditorium of the New National Museum. Dr. William A. White will make the principle address. The entire program will be such as to attract large numbers of the Society's membership.

GEORGE WASHINGTON UNIVERSITY MEDICAL DEPARTMENT

CHANGES IN TEACHING PERSONNEL

The George Washington University School of Medicine celebrated the opening of the 110th academic year on September 19, 1934, in Washington, D. C. Addresses were delivered by President Cloyd Heck Marvin and Dr. William J. Mallory, Professor of Medicine, of the University. Among the distinguished visitors and guests present were Professor John Reenstierna, Department of Bacteriology, University of Upsala, Sweden; Captain Harold Smith, Commandant, United States Navy Medical School, and Colonel P. W. Huntington, Commandant, United States Army Medical School. Dr. E. B. McKinley, Dean of the School of Medicine, announced the following new appointments to the teaching staff:

Herbert P. Ramsey, M.D., Assistant Professor of Obstetrics and Gynecology
Wade H. Marshall, Ph.D., Instructor, Department of Physiology
Alma Fogelberg, M.S., Instructor, Department of Physiology
Randall L. Thompson, Sc.D., Research Associate in Bacteriology
Irmgard Dresel, M.D., Instructor, Department of Pathology
Elizabeth Ramsey, M.D., Instructor, Department of Pathology
Duane Case Richtmeyer, M.D., Research Assistant in Experimental Medicine
G. Louis Weller, Jr., M.D., Clinical Instructor in Medicine
Harry F. Dowling, M.D., Clinical Instructor in Medicine
Russell J. Fields, M.D., Clinical Instructor in Dermatology and Syphilology
Byron Riegel, Ph.D., Research Assistant in Biochemistry
Alexander Simon, M.D., Clinical Instructor in Neurology
Katherine E. Parker, M.D., Instructor in Obstetrics and Gynecology

Dr. Hans Lauber, Professor of Ophthalmology of the University of Warsaw, who was the guest speaker at the meeting of the Medical Society of the District of Columbia on October 3, 1934, addressed the faculty and students at the George Washington University School of Medicine on Tuesday, October 2, 1934. Professor Lauber's subject was "Heredity, Particularly in Relation to the Eye."

It was announced that the first Smith-Reed-Russell lecture at the George Washington University School of Medicine will be given by Surgeon General Robert U. Patterson on Thursday, October 18, 1934.

A. Barnes Hooe, M.D. (1871–1934), an active member of the Medical Society of the District of Columbia since October 11, 1897, was born in King George County, Virginia, on April 12, 1871; his death occurring on September 19, 1934, at Walter Reed General Hospital. He had served the Society on many committees and was most regular in attendance at Society meetings. He was graduated from Columbian University, now George Washington University, in 1896. During the World War, Dr. Hooe served in France as commanding officer of a field hospital. He was a Fellow of the American College of Surgeons. His society memberships included the American Medical Association, Southern Medical Association, Virginia, Maryland and District of Columbia Medical Society, Medical Society of Virginia, Fairfax County Medical Society, Washington Medical and Surgical Society, the George Washington University Medical Society. He was one of the organizers of the latter organization. Dr. Hooe was a past master of St. John's Lodge, F.A.A.M., and was connected with the Knights Templar and the Shriners. He is survived by his widow, Mrs. Eliza M. Hooe, a sister, Miss Nedora Hooe, and two brothers, Rice Hooe, an attorney and Dr. R. Arthur Hooe, an active member of this Society.

On Tuesday evening, October 23, 1934, the annual banquet of the Smith-Reed-Russell Society will be held at the University Club. These affairs are well attended by members with their guests. They serve as an opportunity for an informal meeting of the faculty and students.

An Endocrine Clinic is now available at the George Washington University Hospital under the supervision of Dr. Jacob Kotz. This clinic is prepared to care for all of the endocrine problems in the female. Special attention is given to functional bleeding, dysmenorrhea, amenorrhea, irregular menstruation, menopause problems, obesity. The clinic is prepared to do all the necessary laboratory work which includes the tests for ovarian and pituitary function.

REPRINTS RECEIVED

The following reprints have recently been received for which due acknowledgment is made:

"Who Can Practice Medicine?" Arthur C. Christie, M.D., American Journal of Roentgenology and Radium Therapy, July, 1934.

"Radiologic Service in the United States." Arthur C. Christie, M.D., American Journal of Roentgenology and Radium Therapy, March, 1934.

"Rocky Mountain Spotted Fever Invades the East." James G. Cumming, M.D., Southern Medical Journal, September, 1934.

"Ovarian Pregnancy." Samuel M. Dodek, M.D., American Journal of Obstetrics and Gynecology, August, 1934.

"Spontaneous Rupture of the Sigmoid Portion of the Lateral Sinus." James A. Flynn, M.D., The Laryngoscope, January, 1933.

"Roentgen Treatment of Hyperthyroidism." Thomas A. Groover, M.D., and Arthur C. Christie, M.D., Radiology, March, 1934.

"The Reticulo-Endothelial System and its Relation to the Roentgen Study of the Liver and Spleen after the Intravenous Administration of Thorium Dioxide Solution." L. S. Otell, M.D., Radiology, September, 1932.

"Gross Pathological Changes in Mastoids on Various Days Following the Onset of Acute Suppurative Otitis Media." Albert P. Tibbets, M.D., The Laryngoscope, May, 1934.

BOOK REVIEW

Manual of Urology, by R. M. LeComte, M.D. Baltimore, William Wood and Company, 1933. 317 pages, illustrated. Price $4.00.

This book, designed largely for students use, would prove of value to the practitioner who wishes, in outline form, the more recently developed principles of urology. The author in his preface states in effect that the abundance of material available is reduced to its lowest terms for the convenience of the student. This plan has been well carried out. There are outlines for procedures which give a logical mode for complete study of the patient's urinary system. Amplification of the included printed outline is given only sufficiently to present didactically the subject. The illustrations diagrammatically teach technic. It would seem that an occasional citation of illustrative cases from the author's experience might further the interest and impress the student with the applicability of the plan of study recommended. In general the information is well prepared and is that which is generally accepted. A printed bibliography would add, it is believed, to the value of the work. To students or others desiring a succinct presentation of the essentials of the available literature on urology, the book is recommended.

RECENT CHANGES OF ADDRESS*

Active Members

	OLD ADDRESS	NEW ADDRESS
Adams, Roy D.	1726 Eye Street, N.W.	1150 Connecticut Avenue, N.W.
Aronstein, Charles G.	2018 Summit Place, N.E.	1364 Girard Street, N.W.
Bolton, Boyce R.	1835 Eye Street, N.W.	1801 Eye Street, N.W.
Bruner, Weston, Jr.	1650 Harvard Street, N.W.	1914 37th Street, N.W.
Cavanagh, John R.	2804 Rhode Island Avenue, N.E.	1919 North Capitol Street
Chappell, J. W.	4448 Grant Road, N.W.	3901 Albemarle Street, N.W.
Cox, Oliver C.	3601 Connecticut Avenue, N.W.	4616 Argyle Terrace, N.W.
Crowley, Jerome F.	1726 Eye Street, N.W.	1150 Connecticut Avenue, N.W.
Daniels, Worth B.	1835 Eye Street, N.W.	1726 Eye Street, N.W.
Earley, James H.	1801 Eye Street, N.W.	1633 Connecticut Avenue, N.W.
Earnest, J. P., Jr.	815 Connecticut Avenue, N.W.	2025 R Street, N.W.
Finucane, Daniel L.	Tuberculosis Hospital	Children's Tuberculosis Hospital, Glenn Dale, Maryland.
Gill, William T., Jr.	926 Massachusetts Avenue, N.W.	The Farragut
Hawken, Stafford W.	1726 Eye Street, N.W.	1150 Connecticut Avenue, N.W.
Hoffman, Herman S.	1835 Eye Street, N.W.	1718 Rhode Island Avenue, N.W.
Hottel, R. R.	1239 Monroe Street, N.E.	1222 Monroe Street, N.E.
Koones, Charles K.	26 Iowa Circle, N.W.	20 Logan Circle, N.W.
Leffler, H. H.	1801 Eye Street, N.W.	1726 Eye Street, N.W.
Leonard, B. W.	1824 Massachusetts Avenue, N.W.	1726 Eye Street, N.W.
Linville, Thomas	1801 Eye Street, N.W.	2517 14th Street, N.W.
MacClatchie, L. K.	1463 Rhode Island Avenue, N.W.	200 W. 59th Street, New York City
Oden, Robert	Stoneleigh Court	1302 18th Street, N.W.
Preece, Alec A.	1726 Eye Street, N.W.	1801 Eye Street, N.W.
Saffold, Guy S.	815 Connecticut Avenue, N.W.	1726 Eye Street, N.W.
Silvester, R. L.	2311 Connecticut Avenue, N.W.	3140 Klingle Road, N.W.
Suraci, X. Charles	620 Upshur Street, N.W.	4127 Seventh Street, N.W.
Taggart, S. Ross	1801 Eye Street, N.W.	1726 Eye Street, N.W.
Willson, Prentiss	1726 Eye Street, N.W.	The Farragut
Wilmer, William H.	Baltimore, Maryland.	1610 Eye Street, N.W.

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* October 1st sometimes means moving day for Doctors as well as thousands of laymen. In one or two instances, it should be noted, the street name has been changed with a re-assignment of house number, the Doctor maintaining his original suite. We print the above for convenience of all.

MEDICAL ANNALS

of the

DISTRICT OF COLUMBIA

VOLUME III NOVEMBER, 1934 NUMBER 11

OSTEITIS FIBROSA CYSTICA DUE TO HYPERPARATHYROIDISM*

REPORT OF A CASE WITH OPERATIVE REMOVAL OF A PARATHYROID ADENOMA

JAMES A. CAHILL, JR., M.D., F.A.C.S.

Professor of Surgery, Georgetown University School of Medicine

Hyperparathyroidism is a disease which until a few years ago was unrecognized. It is a disease characterized by wide-spread resorption of bone, associated with hyperplasia of one or more parathyroid glands and markedly increased calcium excretion. It advances slowly, usually to a fatal termination, and is accompanied by emaciation, much deformity and suffering. The osseous picture is not infrequently that known as osteitis fibrosa cystica, which von Recklinghausen first accurately described in 1891 and distinguished from osteomalacia.

Askanazy, in 1904, reported a case of generalized osteitis fibrosa associated with a parathyroid tumor, but the significance of the association was missed. It was not until after Erdheim, in 1907, had described 3 cases of osteomalacia with parathyroid tumors that many other cases were observed. Finally, in 1926, Mandl explored the neck in a case of generalized osteitis fibrosa and removed a parathyroid tumor, with disappearance of the bone pains a few days later, marked fall in the urinary calcium excretion, and a check to the progress of the disease. Following these fundamental observations much interest and research were concentrated on the disease almost throughout the world. In the United States, Ballin of Detroit has contributed much to investigation of hyperparathyroidism Rankin and Priestly have reported cases of tumors of the parathyroid gland. In London a recent complete survey of generalized osteitis fibrosa cystica successfully treated by the removal of parathyroid tumors has been reported by Abel, Thompson and Hawksley. Accurate biochemical investigations showed a high blood calcium and lowered blood phosphorus. The excretion of calcium in the urine was found to be 6 or 7 times greater than normal, the metabolic changes corresponding to those produced by large doses of parathormone. In October, 1931, Hunter found satisfactory proof of the existence of hyperparathyroidism in 28 cases in the literature and reported 4 of his own.

ETIOLOGY

The very limited statistics show that the disease effects both sexes at almost any age. The age limits in reported cases are 7 and 59 years, but with most cases between 30 and 55, females predominating. Just as the thyroid responds in Graves' disease to some unknown stimulus, so there is a hyperplasia of the parathyroid tissue, giving rise to the effects of over-secretion throughout the system. The presence of a hypertrophied parathyroid gland is presumed to give rise to an excessive secretion of parathormone, resulting in a withdrawal of calcium from the bones. In an attempt to maintain the normal blood calcium balance there is an increased elimination in the urine, but the continued hyperparathyroidism maintains the hypercalcemia at the expense of the osseous reserves.

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* Read before the Annual Scientific Assembly, May 2, 1934.

MORBID ANATOMY

At necropsy the bones are found to be soft and deformed, with multiple cysts and a brownish-red tumor which may project from the surface. The whole skeleton is affected, and histologically the bones appear to be formed of dense fibrous tissue. They can be cut with a knife. Pathological fractures are not infrequently found. On exploration of the neck one or more reddish or yellowish-brown lobulated parathyroid tumors may be found, ranging in size from slightly larger than a normal gland up to about the size of a hen's egg.

Turnbull summarizes the changes in the skeleton as lacunar resorption, fibrosis of the marrow and the formation of osteoclastomata and cysts. Cysts are usually numerous, arising from edema and degeneration of the fibrous marrow or from dilatation of vascular spaces.

SYMPTOMS AND DIAGNOSIS

Usually there are bone pains and tenderness, with one or more obvious cysts or tumors. Bowing, deformity and spontaneous fractures of the long bones may occur. In addition there are often other symptoms, comparable to those observed experimentally after injections of parathyroid hormone (Parathormone Collip), such as muscular hypotonia and gastro-intestinal disturbances (e.g., nausea and vomiting and abdominal cramps). Also impaired renal function with thirst and polyuria, calculi, hematuria and renal colic may be present. Abnormal deposits of lime salts in the lungs, stomach, kidneys and myocardium have been noted. Marked wasting and emaciation occur in advanced cases. There may be amenorrhea.

It is only seldom that a parathyroid tumor is palpable in the neck, and some of the largest have been revealed only at operation. Even at autopsy the tumor may be missed unless very careful search is made. From the point of view of successful operative treatment this cannot be too strongly emphasized, for failure to find the enlarged gland has been responsible not only for failure to cure individual cases but also for much confusion of the true understanding of the disease. It is important to bear in mind that the size of the tumor bears no relation to the severity of the bone lesions.

Radiography reveals generalized rarefaction of the skeleton often with numerous cysts.

Estimations of the serum calcium are almost always high (roughly between 12 and 20 mg. per 100 cc., as compared with the normal 9 to 11 mg.). Plasma phosphorus is low (1.0 to about 2.0 mg., the normal being 2.5 to 3.5 mg.) and plasma phosphatase is sometimes over 1.0 unit per cc. (normal 0.15). The excretion of calcium in the urine may be increased on ordinary diet up to 6 or 8 times the normal (0.3 gm. in the 24 hours being the average normal amount).

A segment of bone, preferably from the tibia, may be removed for histological examination, and will show the typical rarefaction and new bone formation detailed above even in a presumably uninvolved area.

These findings, taken into consideration with the history and physical examination, enable a positive diagnosis to be made.

The lesion must be differentiated from Paget's disease, in which there is a general osteoporosis with excessive lacunar absorption. The blood chemistry is normal and the parathyroids are not involved. It also must be differentiated from osteomalacia which is really an adult form of rickets due to deficient calcification.

The prognosis of hyperparathyroidism is a slow progressive course if untreated. The removal of the parathyroid tumor as a rule abolishes the bone pains. The serum calcium, plasma phosphorus and urinary excretion of calcium slowly return to normal.

TREATMENT

An attempt has been made by heavy X-radiation to contract the parathyroid glands and thereby decrease their function. Dr. E. A. Merritt and Dr. Fred O. Coe of this city have developed this method.

Surgical treatment. The preoperative treatment consists in giving a high calcium diet of milk, cream, cheese, eggs, etc. The operative treatment is best performed under avertin and ethylene anesthesia. A thorough exploration of the neck for a parathyroid adenoma should be made. If found, it should be removed. If a tumor is not found, 1 or 2 parathyroid glands should be removed if possible.

Postoperative treatment consists in guarding against tetany. This can be combated by resumption of the high calcium diet as soon as possible, together with calcium lactate by mouth in large doses (30 to 60 grains 3 times a day).

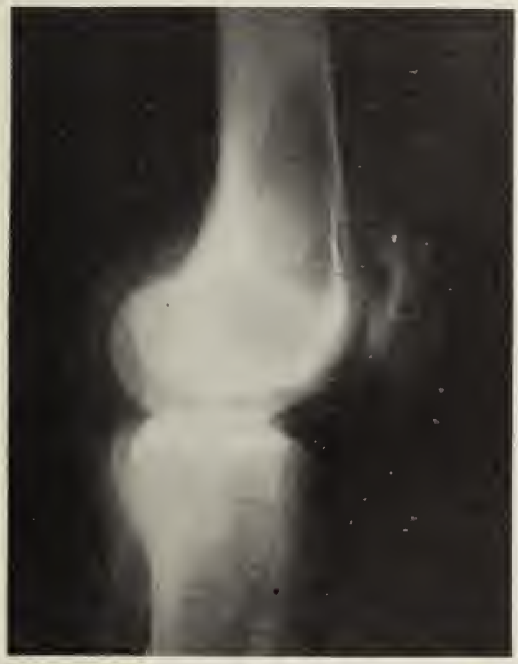
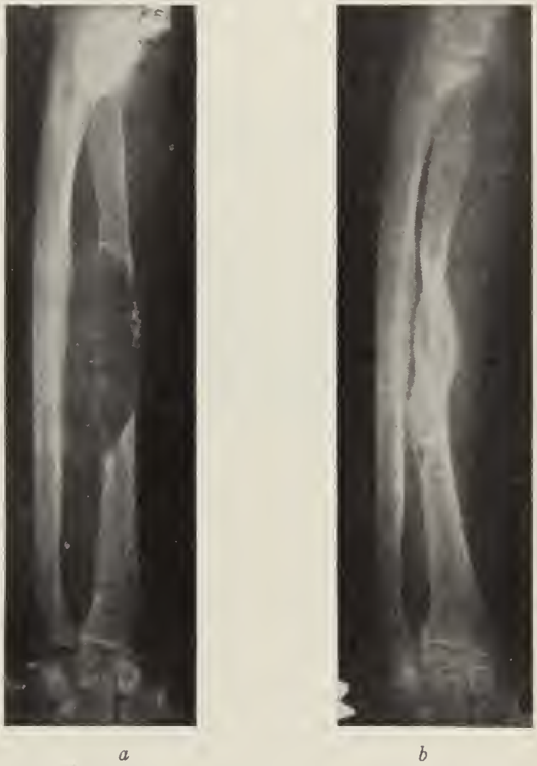


Fig. 1. Large Cyst in Lower Third of Left Femur and Pathological Fractures of Cystic Patella

At the first suspicion of tetany, intravenous calcium chloride (10 cc. of a 5 per cent solution) must be given intravenously. The high calcium diet should be continued for many months, fortified by viosterol, cod liver oil, etc.

Report of Case

M. W., a white woman, aged 22 years, occupation none, nativity D. C., was first seen by me at Georgetown University Hospital on September 28, 1933. She was referred to my service by Dr. W. J. Stanton. She complained of pain and swelling in the right forearm. Her father was said to have been a marked cripple and committed suicide. Her mother is alleged to have cancer. Her previous history shows digestive disturbances beginning in 1931. In January, 1933, she was admitted to Georgetown University Hospital and treated for a fracture of the left humerus. In June, 1933, she was treated for a fracture of the left patella by Dr. Stanton. She also has been under treatment for a peptic ulcer. Menstruation is regular, somewhat profuse and lasts 5 days. There is no leukorrhea. Her present illness began on September 1, 1933, when as the result of a blow on the right forearm she noticed a swelling appear. This was accompanied by pain, and the swelling increased until it was definitely visible 2 weeks after the injury. The temperature was 98°F., the pulse rate 80 per minute, respiratory rate 20 per minute. The blood pressure was 116 systolic and 68 diastolic. The patient was somewhat underweight but not acutely ill. Examination of the head and neck showed a small mass in the right side of the neck which was probably connected with the thyroid or parathyroid gland. The mass was very small but definitely palpable, and on close inspection definite asymmetry could be seen. The heart and lungs were apparently normal. The abdomen showed an old midline scar above the umbilicus, the alleged result of a gastric exploration. Examination of the pelvic bones showed definite asymmetry between the right and left iliac crests. The right anterior-superior spine was very prominent and irregular. The left forearm below the elbow was very tender and painful. There was a moderate swelling intimately connected with the radius. The left patella was larger than the right, and there was some swelling and moder-



a *b*

Fig. 2. Large Cyst in Right Radius Before Removal of Parathyroid Adenoma (*a*), and One and a Half Months Later (*b*)

ate tenderness in this area. The blood calcium varied between 11.6 and 17.2 mg. per 100 cc. of blood. The serum phosphorus was 1.5 mg. The erythrocytes numbered 3,700,000 and the leukocytes 7,200 per 100 cc. of blood. The Wassermann and Kahn reactions of the blood were negative. The basal metabolic rate was plus 10 per cent. Radiographic reports from the Georgetown University Laboratory by Dr. Coe are as follows:

June 30, 1933: Examination of the left knee shows the presence of a fracture of the proximal third of the patella. There is evidently a pre-existing cyst in the proximal portion of the patella. The fragments of the patella are in good position. There is a large cystic area in the distal end of the femur (Fig. 1).

September 18, 1933: Examination of the right radius and ulna shows the presence of a large cyst involving the entire middle third of the radius, with a breaking through of the anterior wall (Fig. 2a). There is an extreme amount of decalcification of the lower end of the humerus, and the remainder of the radius and ulna. Re-examination of the left knee shows definite healing of the fracture of the patella, and very slight increase in calcification of the cyst of the femur.

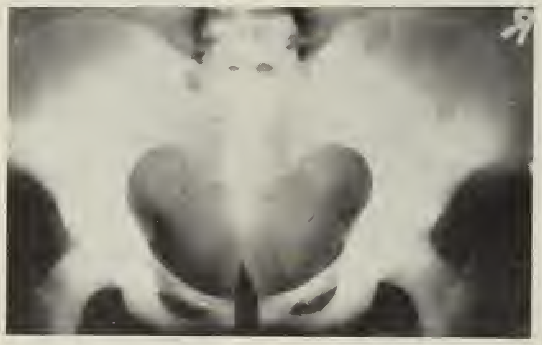


FIG. 3. MULTIPLE CYSTS IN BOTH ILIA

October 16, 1933: Examination of the right knee shows no evidence of abnormality of the bones or joints. Examination of the pelvis shows very large cysts throughout both ilia. The appearance is typical of osteitis fibrosa cystica (Fig. 3).

November 1, 1933: Examination of the right forearm shows a fracture of the radius through the cyst. The fragments are in good position, and there is new bone formation since the operation (Fig. 2b). The wrist and lower end of the radius are displaced toward the palm in relation to the lower end of the ulna.

November 23, 1933: Examination of the pelvis in comparison with the examination of October 16, 1933, shows evidence of some bone regeneration throughout the cystic areas in the pelvis.

January 8, 1934: Examination of the pelvis shows no definite changes in the cysts involving both ilia.

It was considered advisable to perform an open operation on the right radius, and on October 3, 1933, under gas anesthesia an ostectomy of the right radius was performed. At the operation the entire shaft of the radius was found to be of a paper-shell consistency. There was a large bone cyst in the middle third with definite osteofibrosis and multiple cysts. A light curettement was done, the wound was packed with gauze, and the usual sutures and splints were applied. She remained in the hospital until November 1, 1933, when she was discharged with instructions to return for dressings and observation. After leaving the hospital subsequent x-rays of the right forearm showed considerable new bone-formation in the radius. The incision healed well with primary union, and the patient regained good function of the right forearm and arm. After leaving it was suggested that radiotherapy be given with the hope that the parathyroid would be affected and that the general fibrous osteitis would subside. She received considerable x-ray therapy in the parathyroid region. In view of the fact that a small palpable mass still persisted in the neck, it was then deemed wise to perform an exploratory operation in the neck for a parathyroid adenoma. She was re-admitted to Georgetown University Hospital, and on January 20, 1934, under avertin and intracheal anesthesia an exploration of the neck was performed. At this operation the right lobe of the thyroid was found to be enlarged to about the size of a small lemon. At the lower pole of the right lobe a small pea-like mass was found which was evidently a parathyroid gland. A right thyroid lobectomy was performed with the removal of the parathyroid tumor. The patient reacted satisfactorily and was able to leave the hospital 5 days later in good condition. The pathological examination was made by Dr. Lester Neuman but unfortunately the small pea-like body which was thought to be the parathyroid gland was lost. The tissue which was examined was found to be thyroid tissue. However, I feel confident that the small tumor mass was an enlarged parathyroid gland. Since operation the patient has returned for observation once a week. She now has gained considerable weight, appears perfectly well and claims to be greatly improved. She does not suffer from any of her previous digestive disturbances and is entirely normal. Her most recent blood chemistry studies showed the blood calcium to be 13 mg., and the blood phosphorus 1.8 mg. per 100 cc. of blood. Recent radiographs show no changes in the pelvic bones or patella. There is, however, considerable new bone formation and improvement in the radius.

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POST-TONSILLITIC PYEMIA

Report of Three Cases*

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In recent years pyemia following acute tonsillar infections has drawn attention to the course of events in thrombosis of the internal jugular veins. Fränkel reported a number of cases of generalized sepsis following acute tonsillitis in which there was at autopsy thrombophlebitis of the internal jugular vein, or of its tributaries from the region of the tonsil (the tonsillar, ascending pharyngeal, and posterior and common facial veins). Rubin, Moltke, and Abt have more recently summarized the clinical course and the various views as to the pathogenesis. The recognition of this complication should be more frequent. Thus, 3 cases of pyemia following acute infection of the tonsils are reported.

Report of Cases

Case 1: A white man, 22 years of age, was admitted complaining of sore throat, chills and fever. Ten days before entry the illness had begun suddenly. There had been marked general malaise and sore throat which rapidly became very severe. The patient had had shaking chills and profuse sweating repeatedly. Five days before entry the spontaneous rupture of a left-sided peritonsillar abscess resulted in considerable relief from the local symptoms. General malaise, and the aching pains in the back and extremities had increased in severity. Sharp pain in both axillae, exaggerated on respiration, had been present for 2 days. The patient's only previous illnesses had been "pneumonia" at the age of 6 years and an occasional mild upper respiratory infection. At entry the temperature was 103°F., the pulse rate 120 per minute, and the respiratory rate 25 per minute. The patient was well-developed but undernourished. Respirations were accompanied by dilatation of the alae nasi and expiratory grunt. The skin was hot, moist and flushed. A few firm, slightly tender lymph nodes were palpable at the angles of the jaw. The sclerae were icteric. Both tonsils were inflamed; the left tonsil was quite large and a small amount of pus could be expressed. The pharynx, likewise, was dark red in color and was coated with a small amount of purulent exudate. Pleural friction rubs were heard in both axillae. Over the base of the right lung posteriorly dulness and a few fine râles were detected. The abdomen was distended. The sputum was thick, purulent, occasionally bloody, and finally foul-smelling. The signs in the chest became more extensive. There were areas of consolidation throughout the lungs, most marked at the bases. Two weeks after entry there were signs of fluid in the right axilla. Fluid appeared in the left chest soon thereafter. Purulent fluid was obtained on thoracentesis. Closed thoracotomies were performed. Later, foul-smelling air could be aspirated from the pleural cavities. The aspirated fluid contained on smear Gram-positive fusiform bacilli, Gram-positive cocci in short chains and Gram-negative bacilli. Several abscesses appeared. An abscess just below the right sternoclavicular articulation was incised and drained. A Gram-positive coccus in short chains was grown under anaerobic conditions. A similar organism was cultured from the contents of the right ankle. This purulent joint effusion contained 251,000 cells per cubic millimeter. The differential cell count was 94 per cent polymorphonuclear cells, 1 per cent lymphocytes and 5 per cent clasmatocytes. An abscess over the right buttock was incised. The Gram-stained smear showed many Gram-positive cocci in short chains. No organisms were recovered from blood cultures under aerobic conditions. The leukocyte count varied between 23,000 and 66,000 per cubic millimeter of blood, of which at least 90 per cent were polymorphonuclear cells. On entry the hemoglobin was 78 per cent, and the red blood cells numbered 4,250,000 per cubic millimeter of blood. There was rapidly progressive anemia, so that in 5 days the hemoglobin was 60 per cent. In spite of 6 transfusions in 3 weeks, a total of 2,500 cubic centimeters of citrated blood, the hemoglobin was 55 per cent several days before death. The course was obviously progressive to death 30 days after entry to the hospital. The temperature was irregular in type, varying between 97°F., and 104.2°F. Purulent material continued to be discharged from the right and left pleural cavities, and from the incisions in the right buttock, over the right ankle, and over the right sternoclavicular articulations. Permission was granted for postmortem examination of the contents of the chest cavity only. The right first rib showed a recent section at the costochondral juncture. The sternoclavicular articulation was normal. The pleural surfaces were covered with thick greenish-gray purulent material. There was 50 cc. of pus in the left pleural space. The right lung was dark grayish-red on cut surface; there were several small necrotic areas throughout. There was atelectasis of the left lower lobe of the lung. The pericardial space contained 50 cc. of thin greenish-yellow fluid. There were no abnormalities of the myocardium and endocardium. Cultures by routine aerobic technic at necropsy revealed no growth of organisms.

In summary, Case 1 was that of a young man whose illness began with an acute tonsillitis followed by peritonsillar abscess. The subsequent course was that of generalized sepsis. The site of a thrombophlebitis was not determined. There were septic metastases to the lungs, pleurae, pericardium, chest wall, right buttock and right ankle. An anaerobic streptococcus was grown from the pus several times from different locations. The patient died 40 days after the onset of sore throat.

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Case 2: A school boy, 16 years of age, was admitted because of sore throat, fever and delirium. Nine days before entry he had experienced the sudden onset of sore throat, fever, anorexia, malaise and generalized aching pains. The symptoms increased in severity until several days before entry, when the patient became delirious. On physical examination the temperature was 102.4°F., the pulse rate was 120 per minute, and the respiratory rate was 28 per minute. The respirations were difficult and labored. There was dilatation of the alae nasi. The patient was irrational and irritable. The face was flushed. The skin was hot and moist. The right pupil was larger than the left; both pupils reacted to light. The ocular fundi appeared normal. The pharynx and tonsillar pillars were injected. The tonsils were not seen. The neck was resistant to anterior-posterior motion and to rotation to the left. Some swelling was noted in the region of the middle third of the left sternocleidomastoid muscle. Dulness and diminished breath sounds and a few fine râles were detected over the base of the right lung. A pleural friction rub was heard in the right axilla. The abdominal wall was held rigidly, but no tenderness was elicited. There were coarse tremors of both hands. Two days after entry a hard, firm cord was felt along the anterior margin of the left sternocleidomastoid muscle. Under local anesthesia the left internal jugular vein was dissected free. The vein was ligated and severed central to the thrombosis. Three days after entry some recent exudate was noted about the vessels of the left retina. The left optic disc was slightly edematous. Passive motion of the extremities showed a cogwheel type of rigidity. Tremor of the hands was constant. The face was mask-like. The neurological consultant expressed the opinion that this Parkinsonian-like picture was probably due to blood stasis in the basal ganglia as a result of left lateral sinus thrombosis. Loud friction rubs were heard over the left lower lobe of the lung and over the entire right chest. Five days after entry 90 cc. of thin, purulent fluid was removed from the right pleural space. Repeated thoracenteses were done during the next 8 days. Cloudy, bloody, and finally thin chocolate-colored fluid was removed. The cultures from these fluids revealed Streptococcus hemolyticus. There was never any growth from the blood cultures. The leukocyte counts varied between 13,000 and 38,400 per cubic millimeter of blood. Four transfusions of citrated blood were given, which maintained the hemoglobin over 70 per cent and the red blood cells over 3,500,000 per cubic millimeter of blood. The patient remained delirious. There was severe abdominal distention. The temperature varied between 100°F. and 104°F. The incisions for ligation of the left jugular vein and for the transfusions of blood became infected. There was incontinence of urine and feces. The patient died 2 weeks after entry. Permission for autopsy was obtained. At autopsy the pleural surfaces were found to be covered with fibrin. The lungs showed many small abscess cavities as well as early bronchopneumonic changes. The heart and pericardium were not involved. The spleen was soft, and the normal markings on cut surface were not made out. There was congestion of both kidneys. There were venous congestion and edema of the brain. No thrombosis was found, but the veins of the entire left cerebrum were markedly engorged. Streptococcus hemolyticus was grown from the pleural scrapings.

In summary, Case 2 was that of a boy of 16 years of age, who developed thrombosis of the left internal jugular vein, subsequent to acute tonsillitis. There were metastatic septic lesions in the lungs and pleurae, and signs of venous stasis in the basal cerebral ganglia. Streptococcus hemolyticus was recovered from the pleural fluid. The course led to death 3½ weeks after the onset of the sore throat.

Case 3: A white man, 36 years of age, was admitted with the complaint of chills and fever for 2 days. Ten days before entry he was seized suddenly with a sore throat, most severe on the left side. Malaise, anorexia and dysphagia were marked. Five days later the pain in the left side of the neck became even more severe. The diagnosis of peritonsillar abscess was made. Following the incision of the abscess, and with the discharge of a small amount of pus, the local symptoms subsided. For the 4 days preceding entry there had been 2 to 3 severe rigors daily. Nausea was distressing and the patient vomited several times a day. For 3 days there was a persistent cough, productive of very little material. The patient had had "influenza" at the age of 22 years. Only rarely had he had a mild attack of tonsillitis. On physical examination the temperature was 103°F., and the pulse rate was 140 per minute. The patient appeared acutely ill. The skin was hot and moist. The face was flushed. The tongue was furred. The left tonsil was much enlarged and inflamed, and was coated with yellowish exudate. Two small ulcerations on the anterior faucial pillars were seen. The right tonsil was somewhat enlarged and inflamed. Moderately enlarged, tender lymph nodes were noted, especially in the left side of the neck. The lungs were entirely normal on examination. The heart showed only tachycardia. Repeated specimens of urine showed a slight trace of albumin, many coarse red blood-cell casts, occasional granular casts, red blood cells and white blood cells. The leukocyte counts varied between 22,000 and 31,000 per cubic millimeter of blood, of which at least 90 per cent were polymorphonuclear leukocytes. The hemoglobin on admission was 80 per cent. The red blood cells numbered 3,900,000 per cubic millimeter of blood. Three weeks later the hemoglobin and red blood cells had fallen to 43 per cent and 2,600,000 per cubic millimeter respectively. Weakness, prostration and slight nausea persisted throughout the patient's illness. Slight icterus was noted soon after admission. There were severe chills daily. The temperature reached 103°F. frequently. Blood cultures on numerous occasions failed to yield growth; however, during the fourth week Streptococcus viridans was obtained in the blood cultures. Three weeks after entry an abscess appeared over the right buttock; this abscess was incised and drained. The culture from the pus from this abscess revealed Streptococcus viridans. A systolic murmur became audible over the apical region of the heart. No diastolic murmurs were detected. The spleen was never palpable. The clinical course was that of severe generalized sepsis ending fatally 6 weeks after the onset of tonsillitis. No autopsy was permitted.

In summary, Case 3 was that of a man of 36 years of age who developed a left peritonsillar abscess in the wake of an attack of acute tonsillitis. The course of the illness was one of sepsis with an abscess of the right buttock and urinary signs of kidney involvement. Streptococcus viridans was recovered from the blood. The patient died 6 weeks after the onset of the sore throat.

DISCUSSION

The history and clinical course of this type of sepsis are highly characteristic. There is an abrupt change in the course of events during an attack of acute tonsillitis or, more commonly, very soon afterwards. The onset of septicemia is usually characterized by a chill. There is irregular fever with profuse sweating and occasionally repeated chills. Local examination of the oral cavity may reveal little of significance; the local process may appear relatively benign. Tenderness at the angle of the jaw is frequently noted. In some instances tenderness and swelling are to be observed along the anterior border of the sternocleidomastoid muscle. A firm, tender, cord-like structure may be discernible along the course of the jugular vein. The thrombotic process is usually unilateral.

Signs of metastatic septic lesions appear. Multiple pulmonary abscesses are encountered frequently. Empyema of the pleura likewise is common. Abscesses often appear in the subcutaneous tissues and muscles and in and about the joints. Localized septic lesions may occur in other organs, as the liver, spleen, kidneys and serous cavities.

The thrombophlebitic process may extend in a retrograde fashion to give rise to lateral and transverse cavernous sinus thromboses. Meningitis, localized abscess formation, or simple cerebral edema may result.

The course of the illness is progressive, leading usually to death. Bacteriological examinations reveal a variety of organisms. Kissling has remarked upon the frequency of anaerobic organisms. Anaerobic streptococci alone and with other organisms are most frequently found. It would seem that micro-organisms, present in the throat, invade the underlying tissues and lead to a thrombophlebitis of the veins draining these parts. From this focus the organisms are disseminated to other parts of the body.

Fränkel concluded that there was a primary thrombophlebitis of the tonsillar veins with extension of the thrombophlebitis and metastases to the lungs and other structures. Uffenorde, Waldappel, Joel, and Mosher have maintained that the thrombophlebitis was secondary, and they emphasized the primary importance of lymphadenitis, lymphangitis and periphlebitis. The controversy as to the pathogenesis of this lesion has been intimately associated with the divergence of opinion as to the surgical procedures which are advisable. Surgical procedures, such as ligation of the affected veins, removal of the tonsil or a combination of ligation of the veins and tonsillectomy on the affected side, have been recommended.

Fränkel pointed out that ligation of the affected jugular vein was justified on theoretical grounds but of doubtful value practically. No operative procedure has been very satisfactory. The chill at the time of the onset of the process may indicate an outpouring of organisms. When the patient is seen the condition may be well advanced and have progressed so that operative measures are obviously futile.

Thrombosis of the internal jugular vein following infections of the pharynx and tonsils or other structures in the neighborhood are probably not uncommon. Mosher called attention to the frequency with which thrombosis of the internal jugular vein may account for "septicemia of unknown origin." Rubin has suggested that lung abscess following tonsillectomy sometimes may be a metastatic lesion from a thrombus of the internal jugular vein. Undoubtedly the picture of a pyemic sepsis here described represents the more severe results of thrombosis of the internal jugular vein, which is infected with one or more of the micro-organisms present in the areas of drainage of this vein. That similar but less extensive and less obvious processes occur with considerable frequency seems certain.

Summary

Three cases of pyemia subsequent to acute tonsillar infections are reported.

The clinical course and pathogenesis of thrombophlebitis of the internal jugular vein or its radicles are briefly reviewed.

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Is Typical Hodgkin's Disease an Infection or a Neoplasm?— ..... The preponderance of evidence favors the infectious theory, with some promising support for its inclusion among the virus diseases. It must be conceded, too, that the stimulus to further progress is greater if it is not included among the malignant neoplasms, at least until compelling evidence is forthcoming. Certainly the growing tendency in this country to relegate it to the already complex and ill-defined group of lymphoblastomata seems ill-advised, both as confusing, against the evidence and inhibiting progress. In the present state of our knowledge of the subject, the term "lymphogranuloma" is also inadvisable. The non-committal designation, "Hodgkin's disease," even though largely based on a picture unknown to the original describer, is to be recommended until a definite etiology has been established. It is a source of satisfaction, then, that the Lymphatic Tumor Registry has seen fit to preserve the independent position of Hodgkin's disease.

Summary...... Use of the term Hodgkin's disease (rather than lymphogranuloma or lymphoblastoma) and restriction of its use solely on a pathologic (not a clinical) basis is demanded.—*Extract from article by* E. B. Krumbhaar, M.D. *Reprinted from American Journal of the Medical Sciences, November, 1934, p. 603.*

MESENTERIC CYST

Report of Two Cases

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Mesenteric cysts are uncommon. They occur at all ages and twice as often in females than in males. They are nearly always of embryonic origin, are usually located in the ileal mesentery and are most frequently complicated by intestinal obstruction. These tumors present no pathognomonic signs nor symptoms; they are rarely diagnosed before operation, and their treatment is entirely surgical.

It has been my good fortune to have successfully operated on 3 children with cysts of the mesentery. The first case was reported in the Annals of Surgery in September, 1932,* with a study of the subject. The child was a white boy, 6 years of age, with a cyst that almost filled the abdomen. The tumor was marsupialized in November, 1930, and it drained for 2½ months. Up to May, 1934, he had had no recurrence and had been quite well except for the contagious diseases of childhood. The other 2 cases are reported here.

Report of Cases

Case 1: L. L., a white boy, 2½ years old, the third of 4 healthy children, was admitted to Children's Hospital, June 15, 1933. The family history and the past history, including birth and infant feeding, were negative. A little more than a year before entry the mother had noticed the child's abdomen was large when walking. Six months before, the upper abdomen protruded, and a mass was felt. A week before, a doctor called the mother's attention to another mass in the lower left abdomen. The child had no symptoms whatsoever. It appeared very healthy and weighed about 32 pounds. The examination was negative except for the abdominal findings. The abdomen on inspection showed 2 rounded tumors, the smaller in the upper right and the larger in the lower left quadrant. The upper right tumor moved with respirations and extended from the midline to well over in the right flank, and from up beneath the right costal margin to almost the umbilicus. Its upper margin could not be distinctly outlined nor separated from the liver. It was flat on percussion, smooth, rounded, elastic, fluctuant, not tender, slightly movable from side to side, and had a distinct elongated extension into the right flank. The lower left tumor did not move with respiration and extended from well into the left flank to 2 inches to the right of the midline, and from 2 inches below the left costal margin to below the anterior-superior iliac spine but not into the pelvis. It was also flat on percussion, smooth, rounded, elastic, fluctuant, and not tender. It was very freely movable and could be pushed over into the right side or up beneath the left costal margin. There was a sulcus and possibly a connection between the 2 tumors, although one could be moved independent of the other. Pressure on one tumor caused more tension of the other. Both tumors appeared to be just beneath the anterior abdominal wall and neither of them pulsated. The liver dullness was continuous with that of the upper tumor. The edge of the spleen could be felt separate from the tumors. The kidneys were not palpable. Rectal examination was negative. The lower tumor could not be felt in the pelvis. Roentgenograms showed the lungs, heart and thymus apparently normal. The abdomen showed the presence of two masses approximately 10 cm. in diameter, one occupying the right upper quadrant and the other the umbilical region. These displaced the intestinal contents. The hemogram, chemical tests of the blood, urinalysis and tuberculin test were normal. The diagnostic impression was that of multiple abdominal cysts, mesenteric or omental. Due to the prominence of the tumors and their displacement of the intestines, diagnostic aspiration seemed safe. Under novocain each tumor was aspirated on June 16. From the upper right tumor 50 cc. of fluid was withdrawn and from the lower left tumor 200 cc. No attempt was made to empty the cysts. The fluids from both were similar. They were clear, yellow, odorless, mucoid and slightly sticky. An ampule of phenolphthalein was injected into the upper right tumor, and after 3 or 5 minutes the dye was recovered from the lower left tumor, thus proving a communication between the two cysts. Examination of the fluid from each cyst was practically the same as the other. It was alkaline with specific gravity of 1.010 and contained no bacteria on smear nor growth on culture. It contained 0.3 to 0.5 per cent albumin, 105 to 140 cells per c.mm. (76 to 82 per cent polymorphonuclears, 18 to 24 per cent lymphocytes) red blood cells, endothelial cells, cholestrin, fatty acid crystals, fat globules, amalyse and trypsin. The latter suggested a multilocular pancreatic cyst.

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* Warfield, J. O., Jr.: A Study of Mesenteric Cysts with a Report of Two Recent Cases. Ann. Surg., 1932, **96**, 329.

Operation was performed by the author on June 17, 1933, with avertin and ethylene anesthesia and required 2 hours. On opening the abdomen through a right rectus incision a slight amount of yellow mucoid fluid was found in the peritoneum and was thought to be due to leakage following aspiration the day before. There was a smooth, free, easily deliverable cyst the size of a large grapefruit in the lower left quadrant, and at its upper pole an isthmus 1½ inches thick connecting it with a similar smaller tumor in the upper right quadrant. The upper cyst presented a sausage-like prolongation 2 inches in diameter extending to the right flank then turning back, up and mesially, anterior to the duodenum, posterior to the stomach, and extending to the pancreas. It was adherent to the posterior peritoneum and to the gastrocolic omentum. The stomach was anterior and to the left of the tumor, the duodenum posterior, and the transverse colon anterior. The pancreas was small but normal on palpation and situated at the apex or end of the sausage-like cystic elongation. The 2 cysts were incorporated in the gastrocolic omentum, the mesentery of the entire descending colon, and partly in the mesentery of the ileum. A loop of terminal ileum was intimately attached to the lower pole of the larger or lower cyst. The dumbbell-shaped, bilocular cyst was easily delivered, and after being released from the attached loop of ileum, the tumor was carefully dissected from the mesentery with very little bleeding up to the sausage-like prolongation, which was then divided between clamps. The remaining portion of the cyst was emptied of fluid by removing the clamp and explored with the finger, which could be inserted for 3 inches. Its wall was thicker than normal intestine and its mucosal lining was thrown into circular folds. This portion of the cyst was dissected out, split open, and at its apparent end there was a small fistula admitting a probe for an additional 2½ to 3 inches, apparently into the substance of the pancreas. The split portion of the tumor was removed and the remaining small fistula pulled up and sutured into the incision so that it could drain externally. The balance of the incision was closed without drains.

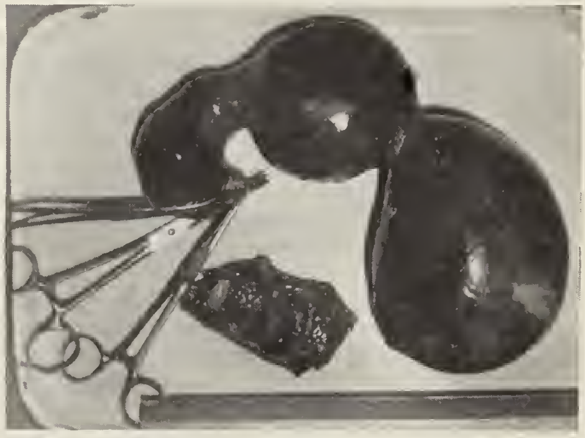

FIG. 1. CASE 1. THE CYST

The specimen was a somewhat sausage-like tumor mass 26 cm. in length, weighing 1,040 gms., made up of 2 globular portions measuring 12 by 10 by 8.5 cm. and 8 by 5 cm. (Fig. 1). These portions were connected by a constricted portion 3.5 cm. in diameter. The surface was smooth and of a mottled grayish-brown with hemorrhagic spots. Along one side of the longitudinal surface was a somewhat ragged portion of tissue apparently the point of attachment. In removing the attached hemostats about 20 cc. of somewhat sticky, blood-tinged, straw-colored fluid exuded through the opening at one end of the tumor mass. There was also a rectangular piece of tissue 8 by 5 cm., averaging 0.5 cm. in thickness. The surface had the same appearance as that of the tumor mass, and the interior was sacculated and hemorrhagic. There was a layer of fibrous tissue separating the serous covering and that of the anterior. This tissue was apparently another portion of the tumor mass. Microscopic section showed 2 layers of muscle on which was superimposed a layer of mucous membrane of practically uniform thickness and in general resembling the structure of intestinal mucosa. There was no indication of malignancy. The condition was evidently a cystic development related to the ducts or originating in the intestinal structures. The final diagnosis was multilocular mesenteric cyst connected with the pancreas and having originated from the intestinal tract.

Convalescence was uneventful. The blood sugar 2 days after operation was 140 mg. per 100 cc. of blood, and the urine was negative. The rectal temperature had varied between 99°F. and 100°F., the pulse averaged 120 per minute, and the respirations had ranged from 20 to 25 per minute. The skin sutures were removed on the seventh day and the tension sutures on the ninth postoperative day. A fistula in the upper end of the wound had drained only a very little serum which did not resemble the fluid contents of the cyst. The fistula admitted a straight hemostat upward, backward and to the left for a distance of 2½ inches. His weight was 31 pounds, appetite was good, bowels had moved well, the abdomen was soft, and there had been no distention, nausea nor vomiting. On June 28, 1933, the tenth postoperative day, the temperature was 140°F. (rectal), pulse 140 per minute, respirations 35 per minute. The next day the blood showed hemoglobin 52 per cent, erythrocytes 3,350,000, and leukocytes 14,000 per 100 cc. of blood, with 70 per cent polymorphonuclear leukocytes and 4 per cent band cells. The urine and Kahn tests were negative. On June 30 there appeared a fine maculo-papular-pustular rash on the face and body that was diagnosed miliara rubra. The temperature returned to normal at the end of a week when there was a fair amount of purulent drainage from the fistulous tract. On July 11, an x-ray film of the abdomen after injection of the sinus tract with lipiodol showed the tract to extend approximately 3 inches below the skin surface. There were 2 inter-communicating collections of the opaque material just to the right of the midline on a level with the first lumbar vertebra. On July 12, the child left the hospital. The sinus tract closed and reopened a number of times but each time admitting a probe for a shorter distance. The sinus was carbolized 4 or 5 times. It was closed by November. At this time the child weighed 33 pounds, looked very well, slept well, played hard, and had a good appetite and normal daily stools. When last seen, May 22, 1934, he had been well except for whooping cough. His weight was 35½ pounds. The abdomen was negative except for the presence of the right rectus scar which had remained healed.

Case 2: F. H., a colored girl, aged 5 years, who is the youngest of 5 living children, was admitted to Children's Hospital, December 14, 1933. Family history and past history, including birth and infant feeding, were negative. The child was well until 8 p.m., December 13, 1933, when she complained of pain around the umbilicus. She was immediately given castor oil which she vomited. During the night she cried every 20 minutes with pain, voided frequently and vomited several times. At midnight she was given Epsom salts and in the morning castor oil which she vomited a half hour later. She vomited once that day. The abdominal pain continued and became worse since after 5 p.m. Bowels had not moved for 2 days. She urinated and defecated on admission. She had had only a glass of milk, some soda water and cocoa that day. She had a slight cough. There was no history of previous attacks of abdominal pain. Her nutrition was poor. She was of average mentality. She appeared ill and was lying on her right side with both legs and thighs flexed, and she cried with pain when turned. The temperature was 101°F., the pulse rate 90 per minute, and the respiratory rate 20 per minute. There was some general glandular enlargement. The abdomen was flat and moved slightly with respirations. It was tympanitic except in the flanks. There was distinct shifting dulness. On palpation the abdomen was generally very rigid and tender, but especially so in the lower half and possibly more so in the lower left quadrant. No masses could be felt. On rectal examination the index finger entered readily without pain. The anal sphincter was of normal tone and the rectum empty. There was a fairly soft, cystic, immovable mass filling the pelvis and protruding down into the cul-de-sac. It was about the size of an orange and quite tender, but there was practically no induration about it. The rectum extended up behind the mass and the cervix was anterior to it. The finger could be passed only partly up on all sides of the mass. The leukocytes numbered 10,550 per c.mm. of blood, with 83 per cent polymorphonuclear neutrophiles. The urinalysis was normal. A vaginal smear for gonococci was negative. The impression was acute appendicitis with abscess.

Operation (by the author) was performed at 12:50 a.m., December 15, 1933. Under general anesthesia a right McBurney incision was made. There was considerable, slightly cloudy, watery, odorless fluid in the peritoneal cavity. The cecum was found in its normal position and the appendix was free, fairly long, not edematous and only very slightly injected. On exploration there was a tense cystic mass in the midline extending half way up to the umbilicus and down into the pelvis. The mass was smooth and oblong, and its lower pole was tightly impacted in the pelvis. The tumor was dislodged from the pelvis and found to have a definite tense pedicle posteriorly which attached the tumor to the sacral promontory. The incision was enlarged mesially by opening the rectus sheath but without cutting across any muscles. The tumor was readily seen to be mottled bluish. I felt certain it had no connection with the bladder, but as a precaution the child was catheterized and the catheter could be felt in the empty bladder distinctly separate from the tumor. The tumor was not connected with any of the regenerative organs. By aspiration I withdrew a small amount of yellow, mucoid fluid that came through the needle slowly and soon coagulated. A longitudinal incision was made into the right side of the tumor. Along with a large amount of yellow, sticky fluid from within the cyst, there also came a soft, pale yellow piece of tissue about 3 inches long that looked like omentum and had no attachment to the inside of the cyst. The cyst collapsed and was readily delivered. The cyst had protruded through the right leaf of the sigmoidal mesentery. The sigmoid was so intimately attached to the left side of the cyst that there was no line of demarcation. The cyst wall varied in thickness, but for the most part it was thicker than that of large bowel. Its thickest portion was on its left side near the sigmoidal attachment. It had a smooth lining membrane thrown into folds by many corrugations or trabecula of varying sizes and running in all directions. The tumor was dissected away from the sigmoid by cutting partly into the thick, white, fibrous wall of the cyst. It was dissected free of the mesentery, and the peritoneal attachment of the cyst to the sacral promontory was divided. The sigmoid was not opened, and although there was considerable oozing no large blood vessels were divided. The raw areas were peritonized. There was no discoloration, angulation nor rotation of the sigmoid, which was replaced into the pelvis. The omentum was pulled over the small bowel. The patient was showing signs of shock, and the appendix was not removed. The wound was closed without drainage.

The diagnosis of sigmoidal mesenteric cyst was made.

Microscopic section showed a loose connective stroma infiltrated with leukocytes and red cells. The fibroblasts were in the form of spindle-shaped and branching cells. Nothing characteristic of any special organ was noted. Evidence of malignancy was not seen.

Convalescence was rapid and uncomplicated. The wound healed per primum, and the sutures were removed at the end of a week. She left the hospital, December 23, 1933, just 8 days after operation. On May 12, 1934, she complained of vague, umbilical pain and constipation, but the abdomen was negative on examination. A Wassermann test of the blood 7 days before this date was negative.

The classification of the cyst in the first case is difficult because of the presence of pancreatic ferments, which also added confusion to the preoperative diagnosis. Its lumen did not communicate with the pancreatic ducts, since no pancreatic juice drained from the remaining sinus which eventually closed. I believe that the location of the tumor, the absence of gross blood in its contents and the microscopic picture indicate that the cyst was of embryonic intestinal origin rather than of pancreatic origin.

The cyst in the second case was probably also embryonal, but its microscopic appearance gave no clue as to its exact origin.

Medical Progress in Tuberculosis—Watts, H. F. R : (*Am. Rev. Tuberc.* 29: 424 [April] 1934) gives his observations of the x-ray examination in the diagnostic clinics of the Boston Health Department. Of 10,639 x-ray examinations 5,023 were adults and 5,616 were children. In the adult group 7½ per cent showed roentgen evidence of childhood type of tuberculosis uncomplicated by phthisis, 22½ per cent showed roentgen evidence of phthisis without evidence of the childhood type; while 2 per cent had both types of the disease. In the group of children 9 per cent were found to have childhood type lesions unaccompanied by adult phthisis. Sixteen children had adult phthisis unaccompanied by the childhood type, while 12 had both childhood and adult types. The author notes especially that of the 92 adults having evidence of both childhood and adult types, the adult lesions were frequently moderate or minimal in extent and showed evidence of fibrosis and healing.—*Extracted from The New England Journal of Medicine, November 15, 1934, p. 925.*

TREATMENT OF FAR-ADVANCED INOPERABLE CARCINOMA OF THE BREAST BY INTRAVENOUS COLLOIDAL LEAD*

REPORT OF A CASE

ALEC HORWITZ, M.D.

Associate in Surgery, George Washington University School of Medicine

E. C., a colored woman, aged 34 years, was admitted to Gallinger Municipal Hospital on January 6, 1934, complaining of a large lump in her right breast of several years' duration. Her history was otherwise of no importance. On examination she presented a nodular mass about 11 cm. in diameter in the upper half of the right breast. The mass was hard and only very slightly movable, being closely adherent to the skin and the pectoral muscle. There were a few nodules in the right axilla. Roentgenogram of the chest was essentially negative. She was turned down by the surgeon as inoperable, and roentgen ray therapy was advised. She received 6 light roentgen ray treatments, not sufficient to cause even a skin erythema, and she returned to Gallinger Municipal Hospital in the latter part of March, 1934, for lead therapy. At this time there was no change in the breast tumor whatever.

Since her admission to Gallinger Municipal Hospital she has received 9 intravenous injections of colloidal lead phosphage, 10 cc. at each dose, given about 4 days apart, or a total of 315 mg. of lead intravenously. Except for a slight amount of nausea and some headache and an occasional chill she has had very little discomfort from the injections. She has had her urine and blood examined after each injection, and her eye-grounds examined for papilledema. Only in the last few examinations was there found stippling of the red blood cells indicating a beginning mild toxic stage. The effect of the treatment with lead in this case is best expressed by the statement of Dr. Leffler, the pathologist at Gallinger Hospital, an unprejudiced observer. He states that he was struck by the difference in the mass from the time of her first admission and his examination on April 7. He says that the mass is now at least one-third its former size and much more movable. The diagnosis from a clinical standpoint is schirrous carcinoma of the breast. The mass seems to have actually melted away since lead therapy was instituted, and it is now much more movable.

The use of heavy metals in cancer therapy is not new. Gold, arsenic, bismuth and other metals have been used and discarded. The use of lead was introduced by Blair Bell of England, who noted that in the lead works in Liverpool, those workers who continued their occupation because of economic stress, despite a hopeless, far-advanced malignancy, improved remarkably. The pain disappeared, the growth was reduced in size and foul-smelling discharges diminished.

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* Read before the Annual Scientific Assembly, May 3, 1934.

In this country, Ullman, Knox and others have used lead in colloidal form with or without irradiation in cancer patients. My interest in this matter was stimulated by a report from the Mayo Clinic on the use of lead in inoperable cases of malignant disease. Of 48 patients with far-advanced inoperable malignant lesions who were able to receive enough lead intravenously so as to become slightly toxic, 9 patients were free of any evidence of malignancy from 8 months to 2½ years, after therapy was begun. The following facts have been brought out by the Mayo Clinic investigations:

1. That after the injection of lead intravenously the concentration of lead in the tumor is 4 or 5 times greater than in normal tissues.
2. That lead had a definite local effect on the tumor, as evidenced by pain in the tumor, swelling and increased vascularity.
3. That unless lead is given to the point of toxicity little can be expected of it. The desired concentration of lead is one that gives the earlier signs of toxicity, such as anemia, stippling of the red blood cells, nausea and abdominal cramps, but not the more toxic stages as evidenced by the lead line and peripheral neuritis.

The lead used is colloidal lead phosphate prepared in the biochemical laboratory of the George Washington University School of Medicine under the supervision of Dr. duVigneaud. Each injection consists of 10 cc. of the colloidal lead phosphate or about 35 mg. of lead to the dose. The average amount that can be given until mild toxicity is produced is about 350 to 400 mg. Injections are given about 3 times a week. The solution is given intravenously and very slowly, the same precautions being used as in any intravenous injection. The reactions to be expected are those found in any intravenous injection, but it is wise to have adrenalin at hand in case there is a reaction.

Contraindications to the use of lead are marked debility, marked anemia, and the involvement of a hollow organ; the latter because of the fear of perforation due to the liquefaction that follows lead therapy.

ACUTE PHAGEDENIC ULCER OF THE LEG

Report of a Case

E. A. Cafritz, M.D., F.A.C.S.

Instructor in Surgery, George Washington University School of Medicine

The purpose of this paper is to report a case of rapidly spreading, progressive ulcer of the leg and to emphasize the importance of proper surgical treatment. Phagedenic ulcers are common in tropical countries where they are frequently found as a septic complication of wounds or simple erosions of the skin. In this country these ulcers are quite rare.

In a series of 150 cases of ulcers of the leg reported by Kilbourne, 100 were due to syphilis and superficial varicose veins, and 50 were due to other causes. The etiological factors of many ulcers are unrecognized by the physician, and consequently the treatment of ulcers is often long, disability is great, and the results are poor. Kilbourne states that the following are the types of ulcers most frequently undiagnosed as to cause.

1. *Lacunar Varicose Ulcer.* There is nothing diagnostic about the lacunar ulcer, except that it has the appearance, location, edema and induration which one sees in the typical varicose ulcer. This ulcer is due to deep varicose veins. Diagnosis of deep varicosities is made by palpation after the edema and induration attending the ulcer have been reduced. There is a sense of fluctuation over the deep lake of blood. Uroselectan injection with X-ray is absolutely diagnostic. An interesting point in the diagnosis of a varicose limb is that the skin is devoid of hair.
2. *Arteriosclerotic Ulcer.* This is diagnosed by evidence of arteriosclerosis in other parts of the body, by the absence of pulsation in the posterior tibial or dorsalis pedis arteries, and by trophic changes and dry gangrene of the toes.

3. *Hypothyroid Ulcers.* Extremely low basal metabolic rate and other signs of hypothyroidism along with therapeutic response to thyroid are diagnostic of these ulcers.

4. *Ulcers with Profound Anemia.* Impression of etiology here is based on discovery of the anemia and absence of other causative factors.

5. *Gluttony Ulcers.* These are found in extremely obese individuals. Reduction of weight is the cure.

6. *Malnutrition Ulcers.* Evidence of malnutrition and low vitamin diet with rapid response to correction of the deficiency are diagnostic.

7. *Wassermann-Negative Syphilitic Ulcers.* Diagnosis cannot be established usually until therapeutic test of bismuth clears up the ulcer.

8. *Tuberculous Ulceration.* This starts with the "Apple-jelly" nodule. The ulcer itself shows a dirty gray base. Guinea-pig inoculation and biopsy are used as diagnostic procedures.

9. *Mycotic Ulcers.* Culture and biopsy are necessary to make the diagnosis.

10. *Ulcers Due to Drugs.* The history is naturally of great importance.

11. *Malignant Ulcers.* These bleed easily and have indurated edges. A biopsy examination is essential to confirm.

The case for this report does not in my mind fall into any of the groups named in Kilbourne's paper.

REPORT OF A CASE

The patient is a white male, aged 26 years, 5 feet 8 inches tall, weighing 138 pounds. His complaint was ulceration of the left leg. While working at a gas station on August 18, 1933, he slipped and fell into an oil pit, bruising the skin over the lower third of the leg. He was treated by his physician for 1 week. Infection began to be evident on August 21, and on August 25 he was admitted to the hospital with a note that there was a wide area of erythema over the left tibia and ulceration 1 inch in diameter, showing purulent discharge. The history otherwise was negative except for an existing gonorrheal infection. Physical examination was negative except for the injury, a urethral discharge, and an inguinal adenitis. The blood Wassermann and Kahn tests were negative. The erythrocytes numbered 4,000,000, and the leukocytes 10,000 per 100 cc. of blood. The urine showed a faint trace of albumin, an occasional cast and shreds. These negative physical and laboratory findings continued essentially the same throughout the course of the illness with the exception of 1 report of leukocytosis, a 15-pound weight loss, and the temperature findings. The temperature on admission was normal. From September 9 to 11 and from September 14 to 21 the temperature was septic between 99°F. and 105°F. The leukocyte count on September 5 was 16,600, with 87 per cent polymorphonuclear neutrophiles. The ulcer that on admission was 1 inch in diameter, rapidly progressed until September 13. On this latter date it covered an area extending from just below the upper end of the tibia on the anterior lateral surface of the leg down over the anterior surface to within 6 inches of the malleoli (Fig. 1). The ulcer measured 3½ inches at its widest part. The edges were undermined, it exuded large amounts of grayish pus and serum, and the usual inflammatory reaction was present surrounding it. Its base was the deep fascia of the leg. Syphilis was ruled out by the negative Wassermann test, the history and the physical findings. Varicose etiology was ruled out. Examination for the ameba was negative. The patient gave no history of dietary deficiency, and he was not in a state of malnutrition. Also, instead of improving under general supportive and local treatment, the ulcer had progressed rapidly to an amazing size. A culture made on September 12 from the base of the ulcer showed growth of Staphylococcus albus, Streptococcus hemolyticus and the colon bacillus. Scrapings from the base revealed nothing but pus cells and gram-positive cocci. In view of the entirely negative specific etiology the diagnosis of acute non-specific, phagedenic ulcer had to be made. The treatment was general and local. A highly nutritious diet with high vitamin content was given. Hot compresses of magnesium sulphate, saline irrigations, applications of merthiolate, gentian violet, methylene and bichloride of mercury (1–5,000), ultraviolet and infra-red light were used

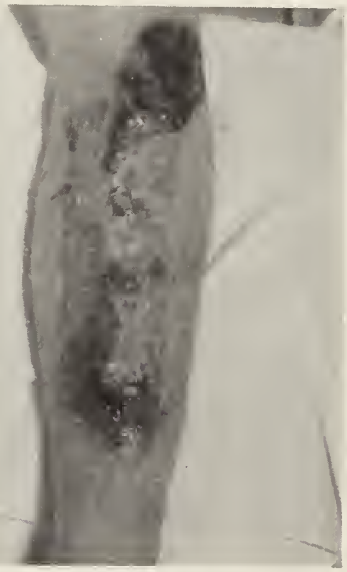

FIG. 1. TRAUMATIC PHAGEDENIC ULCER OF THE LEG PARTIALLY COVERED WITH SKIN GRAFT

(*Continued on page 292*)

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

CENTRAL ADMITTING BUREAU

Elimination of Dispensary Abuse

For years, and most especially during the present economic depression, it has been known to physicians and others that patients were being given free medical service in the out-patient departments and in the wards of the community hospitals who were able to pay something for private medical attention. Many physicians have complained bitterly about this situation. Nothing had been done about this matter, however, until recently. The social-service departments have been unable to properly determine the eligibility of patients for free medical services, largely because of insufficient personnel. They have had to accept the statements of applicants for free medical service at their face value, in a great many instances without an investigation to determine their veracity. Not only have patients been getting free medical services who did not deserve it, but patients receiving free medical services have been going, in many instances, from one clinic to another, causing reduplication of medical services. These abuses have not only been at the expense of the practicing physicians of the District of Columbia who have been rendering the free medical services in the various clinics and hospitals, but also at the expense of the taxpayers of the District of Columbia and many public spirited citizens who have donated to the support of the Community Chest. The Community Chest has been paying fifty cents for each visit of a patient in an out-patient department, and has been defraying part of the expenses of hospitalization of other patients. In 1933 seventy-five thousand patients were treated in the out-patient departments of the community hospitals. These patients made 227,000 visits. During the year there were also 8,370 patients hospitalized in the wards of these hospitals whose expenses were partly paid by funds of the Community Chest. The expenses of these patients borne by the Community Chest amounted to $305,000.00. It is estimated that the expenditure of $60,000 of this sum was unwarranted because it was paid for services for patients who were not eligible to receive free medical attention. The Committee on the Coördination of Resources for Medical Care, a subcommittee of the Committee on Medical Economics, has been studying this and other problems. It has also been studying the methods used in thirteen other large communities in order to prevent such abuses as have been mentioned. With the help of Mr. Ross Garrett, coördinator of the Health and Hospital Council, and health secretary of the Council of Social Agencies, this committee has developed a plan which has already been accepted, the purpose of which is to eliminate the "chiselers" of medical services. The plan embodies the establishment of a central admitting bureau financed by the Community Chest. The duties of this central admitting bureau are to pass upon the eligibility of patients who apply for free medical services in the District of Columbia. This bureau will have a personnel of eight individuals carefully selected to fulfil the duties required. The central admitting bureau will be under the immediate direction of Mr. Ross Garrett. The policies will be determined by a supervising committee of fourteen members, eight of whom will be members of the Medical Society of the District of Columbia. The plan will go into effect the first day of January, 1935. Not only will the successful carrying out of this plan eliminate most of the exploitation of the services of the physicians, reduce the expenditures of the Community Chest, relieve the social-service departments of the various hospitals from a task which they can not now properly handle, but it will be a big step toward the coördination of medical resources in the District of Columbia, and it will place the medical profession in its proper niche in the accomplishment of this coördination. Many organizations have sprung up in the District of Columbia of a charitable nature, the objects of which are quite similar and frequently overlap. A proper coördination of these various agencies will be a great step forward in the efficient management of the problem of indigent and semi-indigent individuals and families in the District of Columbia. It is hoped that the medical profession will get solidly behind this first step in bringing about such coördination and will do its part in making the central admitting bureau successful in the fulfilment of its functions. If this piece of machinery can be successfully developed it will be only a short step to the accomplishment of other important problems in the field of caring for the sick of the District of Columbia.

PUBLIC RELATIONS

One of the functions of the Committee on Public Information is to censor, insofar as is possible, medical articles written by members of the Society appearing in the lay press, or articles containing subject matter which, definitely written by others, give laudations defying "the traditions" and lowering "the tone of any profession and so are intolerable." "It is unprofessional to promise radical cures; to boast of cures . . . to gain the attention of the public for the purpose of obtaining patients." The quotations come from Chapter II, Section 4, Principles of Medical Ethics of the American Medical Association. It is recognized that inadvertently a physician is placed in an embarrassing position by some enthusiastic lay writer. He often immediately repudiates the article by making contact with the appropriate committee and is properly relieved of odium. On occasion the article in question has entirely escaped his notice and he further has had no previous knowledge of its preparation. His attention to the press notice is called by his fellow-members or mayhap through a communication from the Committee on Public Information. A method coming to our attention, adopted by at least one organization, is to have a bulletin board on which are placed articles written by or concerning members appearing in the lay press that might appear self-laudatory. A blank sheet is attached for comments not only by his fellow-members but by the physician involved. It is not contemplated to recommend this method which readily may be seen to have good points, nor is it to be inferred that there is any immediate need to change the present system. The District of Columbia has been remarkably free from the type of violation of ethics alluded to in this paragraph. Complaints have been rare indeed. The viewpoint of the profession toward publicity is often not grasped by the lay press. Every effort should be made to give friendly criticism when the need is apparent.

TRANSACTIONS OF THE SOCIETY

Stated Meeting, November 7, 1934

The following were duly elected to membership:

Active Members

Charles Lincoln Bliss, The Kenesaw
Alva Duckett Daughton, East Falls Church, Virginia.
Louis P. Levitt, 200 Massachusetts Avenue, N. W.
Fofo Mezitis, 1801 Eye Street, N. W.

Associate Member

Arthur George Compton, Port of Corozal, Canal Zone

Applicants for membership to be voted on in January, 1935:

For Active Membership

Walter Atkinson, Georgetown University—1928
Thomas Bradley, University of Virginia—1929
Charles Powell Cake, University of Virginia—1925
Harry Filmore Dowling, George Washington University—1931
Harold Rivers Downey, Johns Hopkins University—1930
Bernard Semple French, Johns Hopkins University—1923

Mervin Wilbur Glover, George Washington University—1932
Henry Beall Gwynn, Georgetown University—1933
Robert Samuel Jacobs, Medical College of Virginia—1930
Samuel Luber, Rush Medical College—1929
John Joseph Lynch, Georgetown University—1925
Michael J. McInerney, Georgetown University—1931
Arthur James Mourot, New York University—1931
Walter Kendall Myers, Johns Hopkins University—1929
Edward Matthew O'Brien, Georgetown University—1926
Owen Samuel Parrett, College of Medical Evangelists—1915
Benjamin Rones, Johns Hopkins University—1926
Amanda Louise Stoughton, Johns Hopkins University—1927
James Conrad Waters, Georgetown University—1932
George Louis Weller, Jr., Johns Hopkins University—1932

For Associate Membership

Sara Elizabeth Branham, University of Chicago—1934
Martin Donohue Delaney, Georgetown University—1932
Watson William Eldridge, Jr., George Washington University—1910
Alexander Simon, Columbia University—1930

A Constitutional amendment proposed by Dr. Edward Y. Davidson would abolish the present Nominating Committee with a reversion to nominations from the floor as was the custom of the Society previous to 1929:

> Change Chapter VI of the Constitution, as follows:
>
> Article I. After the word "ballot" add the following phrase: "and a majority of the votes cast shall be necessary to elect." Article I would then read: "Elections shall be by ballot and a majority of the votes cast shall be necessary to elect."
>
> Article II. Strike out entirely and substitute therefor the following: "Nominations for each elective office and elective committee vacancy shall be made orally."

This proposed amendment will be presented for ballot at the stated meeting of the Society, January 2, 1935.

Upon recommendation of the Hospital Committee, adopted by the Society, it is ordered that the following Faculty Resolutions coming from George Washington University School of Medicine be published in the Medical Annals of the District of Columbia:

WHEREAS, The Medical Society of the District of Columbia has gone on record* as favoring certain policies looking toward the elimination of the "practice of medicine" in certain aspects of the work of University Hospitals; and

WHEREAS, The Faculty of the School of Medicine of the George Washington University desires always to extend its coöperation in movements designed and calculated to improve and better conditions of medical practice and medical education; be it

Resolved, That the Faculty of the School of Medicine, The George Washington University, approve in principle the elimination of the custom of charging private patients in its University Hospital for *purely professional* services which may be rendered by its laboratory departments to the end that such *purely professional* fees may be handled directly between the consultant† and the patient; and be it further

Resolved, That the Faculty of this School of Medicine regards the technical work of its laboratories as purely *non-professional* and approves in principle the levying of charges to any person or patient for *technical services* rendered and for the *use of its laboratory facilities*. This principle rests upon the thesis that (1) the content and substance of our knowledge of these technical procedures are almost entirely the product of learning and discovery of the fundamental and basic sciences of physics, chemistry and biology; (2) this body of knowledge belongs to the realm of scientific learning and is not the property of the medical profession; and (3) such technical procedures are performed for the most part in all types of laboratories, public or private, by *non-professional* people. Medical training and knowledge is not essential for the performance of this technical work. This Faculty submits the thesis that the "practice of medicine" in such laboratories begins only, if at all (responsibility for patient not generally assumed by laboratory consultant but resting with physician in charge), at that point where such technical data are *interpreted* and *applied* to the patient for the diagnosis, treatment and prognosis of disease processes. The specialists in laboratory services, giving opinions when needed and requested, would thereby conform with custom and tradition accepted as inherent in all other medical and surgical specialties. This Faculty further submits that therein only may lie the concept of the "practice of medicine" in the laboratory branches.

Upon recommendation of the Executive Committee the plans for the Central Admitting Bureau were adopted, it being understood that beginning with January 1, 1935, all patients applying to dispensaries, and patients who occupy beds in the hospitals, in the payment for which the Community Chest participates, will be passed on by the Central Admitting Bureau. It should be noted that the Supervising Committee of 14 members will be constituted as follows: 8 members from the Medical Society of the District of Columbia, 6 to be selected from the Executive Committee of the Community Chest, Hospital Superintendents' Association and Dental

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* Medical Annals of the District of Columbia, August 1934, **3**, 230.

† Such as interpretation of X-ray plates and supervision of administration of X-ray therapy.

Society. The following representatives of the Medical Society have been duly selected: Drs. Prentiss Willson, Wallace M. Yater, Henry C. Macatee, Margaret M. Nicholson, Oscar B. Hunter, Arthur C. Christie, Sterling Ruffin and William H. Hough.

At the meeting of the Executive Committee, held October 29, the Committee on Public Information was authorized to employ for a period of 2 months a lay publicity man who would, through his contact with the press, supervise the placing of medical information at regularly stated intervals.

ANNUAL MEETING

The President of the Society, at an early date, will appoint committees for the coming Annual Scientific Assembly in May, 1935. Authorization was given at the stated meeting on November 7, 1934. Dr. Matthew White Perry has been selected as general chairman of the Committee on Arrangements.

COMMITTEE ON PUBLIC INFORMATION

MEDICAL BROADCASTS, SPEAKERS' BUREAU

Radio broadcasting, the public press and public addresses are being utilized by the Medical Society of the District of Columbia this year in its effort to keep the public at large informed of what is going on in the medical world. The Committee on Public Information has organized its activities with a view to providing regular channels by which authoritative medical information may be conveyed to the laity and also that information may be regularly furnished as to the attitude and activities of the medical profession with respect to public questions in which its influence should be felt. Beginning the first week in October, radio broadcasting programs were put into effect. Members of the Society, at the request of the committee in each case, have prepared and presented addresses on given topics over Station WMAL each Thursday morning at 11:15 A.M. Every address so given has had its manuscript read, revised where necessary, and approved by every member of the Committee on Public Information in advance. The restrictions surrounding the preparation of these papers have included such things as: the conformity of ideas expressed to the consensus of medical opinion; the avoidance of discussions representing personal opinions, hobbies, and all material representing ideas on debatable ground; the absence of personal advertising or the use of the first person. The exact manuscripts of all broadcasts are kept in a special file maintained in the Society's office for reference. For some of the talks the committee is having the coöperation of the Washington Heart Association. The District of Columbia Dental Society has agreed to furnish several speakers on the schedule through the winter.

The schedule to date includes:

October 4—"The School Child." P. A. McLendon, M.D.
October 11—"The Common Cold." Walter A. Wells, M.D.
October 18—"Stomach-aches and Cathartics." William J. Mallory, M.D.
October 25—"Crossed Eyes." William Thornwall Davis, M.D.
November 1—"The Prevalence and Prevention of Heart Disease." Thomas A. Claytor, M.D.
November 8—"The Army Within." Oscar B. Hunter, M.D.
November 15—"Diphtheria." Henry C. Macatee, M.D.
November 22—"The Cancer Problem." James A. Cahill, Jr., M.D.
November 29—"Tuberculosis." John Minor, M.D.
December 6—"Baby Swallowed a Pin." David Davis, M.D.

Further speakers and titles have been arranged but specific dates have not yet been assigned. The notice of each week's broadcast is carried on the announcement of the weekly Medical Society meetings, and the committee urges the membership of the Society to assist in the campaign of informing the public by keeping the card at hand and advising friends and patients of the broadcast. Due regard should be had for the possibility of change of hour or station. The newspapers carry the broadcast in their formal program under the title, "THE DOCTOR SAYS."

News items respecting the activities of the Medical Society affecting public questions are being regularly released to the press together with occasional articles on health matters.

In process of organization at this time is the Speaker's Bureau, which will function as a means for furnishing speakers, representing the Medical Society, on the invitation of lay organizations. Further announcement of the activities of the Speaker's Bureau will be made in the next issue of the MEDICAL ANNALS.

The committee bespeaks constructive criticism by the membership of the Society in regard to its work of representing the Society before the public. The personnel of the committee appears on page v. of each issue of the Annals.

COMING MEETINGS

Friday, November 23:

The Section on Internal Medicine.

1. "Intravenous Bacteriophage in Staphylococcus Septicemia. Report of a Case with Fatal Reaction." R. Lomax Wells, M.D.
2. "The Roentgen Findings in the Osseous System in Constitutional Diseases." J. E. Wissler, M.D.

Friday, November 23:

The Section on Ophthalmology and Otolaryngology.

1. "Basal Cell Carcinoma of the Larynx with Apparent Recovery. Case Report." Don S. Knowlton, M.D.
   Discussion: Drs. David Davis, Thomas A. Groover and Tomas Cajigas.
2. "Nose and Throat Manifestations of Systemic Diseases." George B. Trible, M.D.

Monday to Friday, December 3-7:

The Radiological Society of North America will hold its annual meeting at the Hotel Peabody, Memphis, Tennessee. The medical profession is cordially invited to attend. Further information may be obtained by addressing the Secretary-Treasurer, Dr. Donald S. Childs, 607 Medical Arts Building, Syracuse, New York.

Thursday, December 6:

The Section on Neurology and Psychiatry.

1. "The American Board of Psychiatry and Neurology." Walter Freeman, M.D.
2. "Case Report: Transvestitism in a Man (Lantern Demonstration)." Alice Heyl Kiessling, M.D.
3. "Superior Pulmonary Sulcus Tumor. Report of Two Cases." Antoine Schneider, M.D.

Wednesday, December 12:

"The Present Status of the Surgical Treatment of Pulmonary Tuberculosis." Pol N. Coryllos, M.D., Professor of Clinical Surgery, Cornell University. On this evening there will be a buffet supper.

GUEST SPEAKERS, 1935

The Program Committee has an established policy of having as speakers from time to time out-of-town medical scientists who ably present their subjects. Scientific Sections and other local medical groups adopt a similar policy. Among the names of physicians selected for the coming year are noted:

FRED W. RANKIN, M.A., M.D., of Lexington, Kentucky, formerly surgeon at the Mayo Clinic; graduate of the University of Maryland.

OLIVER HAZARD PERRY PEPPER, B.S., M.D., of Philadelphia, Professor of Clinical Medicine, University of Pennsylvania.

CHARLES HIGGINS, M.D., of the Crile Clinic,

LYNWOOD KEYSER, M.D., of Roanoke, who have accomplished much in the important field of etiology of urinary calculi with the establishing of practical modes of therapeutic management. The Washington Urological Society will present these gentlemen as speakers at the meeting to be held on January 7, 1935, to which the profession is invited.

SAMUEL JOSEPH KOPETZKY, M.D., Professor of Otology, New York Polyclinic Medical School and Hospital; Director of Otolaryngology, United Israel Zion Hospital. His address, to be given on January 30, 1935, through an invitation by the Section on Ophthalmology and Otolaryngology will be, "Problems Presented by Suppuration of the Petrosal Pyramid."

ACUTE PHAGEDENIC ULCER OF THE LEG

(*Continued from page 287*)

locally. Since these measures did nothing to check the spread of the ulcer, on September 13 the entire ulcer was excised with the cautery along with $\frac{1}{4}$ inch of good tissue at the circumference. The base was curretted and the fascia at the base scraped. Saline irrigations were continued until October 4, when infection had ceased and the ulcer had granulated nicely. On October 4, November 24 and December 14, seed or pinch grafts were done to cover the denuded area. Many grafts were unsuccessful because of exuberant granulation. The surface was completely covered by epithelium by January 15. Supportive measures were continued and the patient discharged on February 23, 1934, after a hospitalization of 182 days. At present he is wearing a light shin-guard to prevent injury to the part. No recurrence of ulceration has taken place. There is no specific symbiosis between the organisms found. There could have been, however, an original infection of streptococci in the ecchymotic tissue left by the bruise. This may have weakened the tissue resistance locally to such an extent that the relatively non-pathogenic Staphylococcus albus and the colon bacillus could grow and cause the necrosis of tissue.

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GEORGE WASHINGTON UNIVERSITY MEDICAL DEPARTMENT

The Smith-Reed-Russell lecture for October was delivered by General Robert U. Patterson, Surgeon General of the United States Army, at the George Washington University School of Medicine. The subject: "The History of Yellow and Typhoid Fevers in the United States Army."

The annual banquet of the Smith-Reed-Russell Society was held on October 23. Addresses were given by Dr. Charles Wardell Stiles, United States Public Health Service, retired, on "The History of Hookworm Diseases in the New World," and Dr. Henry B. Ward, permanent secretary of the American Association for the Advancement of Science, on "Salmon Psychology."

Emeritus Professors and Faculty members elected to honorary membership included: Drs. Sterling Ruffin, D. Kerfoot Shute, Huron W. Lawson, William K. Butler, Buckner M. Randolph, Custis Lee Hall and Jacob Kotz.

PAN AMERICAN MEDICAL ASSOCIATION

WASHINGTON CHAPTER

At the kind invitation of His Excellency, Don Luis Calderon, Ambassador of Spain, the Washington Chapter of the Pan-American Medical Association held its second meeting of the season on Sunday, October 28, at the Spanish Embassy. The session began with one minute of silent tribute, members standing, to the Spanish scientist, Dr. S. Ramón Cajal, who stands as the first world figure in Spanish medicine and one of the greatest among his profession in all times, his death occurring in Madrid on October 18. A message was approved, to be forwarded by the Ambassador to his Government, extending the condolences of the Chapter to the Spanish Government and to the Academy of Medicine at Madrid.

The scientific program was as follows:

1. "Great Deeds and Men of Spanish Medicine. (Illustrated with lantern slides.)" Fielding H. Garrison, M.D., Director of the Welch Medical Library, Baltimore.

   Spanish medicine has always been characterized by its pioneer qualities. Servet discovered the cirulation of the blood one century before Harvey. Spanish universities were among the first in authorizing necropsies. Spain preceded the whole world in opening schools for deaf mutes and the blind and in the humane treatment of the insane and in organizing hospitals. Spanish physicians deserve also credit for suggesting professional guidance, identifying croup, describing typhus fever in America and in preparing physical fitness cards. They were also the first in introducing to civilization cinchona bark, coca and ipecac and in suggesting that mosquitoes conveyed yellow fever, lice, and typhus fever.

2. "The Use of the Bacteriophage in the Treatment of Bone and Joint Infections." F. A. Albee, M.D., of New York City. Discussion by Drs. Custis Lee Hall and Guy W. Leadbetter, of Washington and Dr. R. K. Ghormley of the Mayo Clinic of Rochester.
3. "Horseshoe Kidney. (Illustrated with lantern slides.)" Roberto Gutierrez, M.D., of New York City. Discussion was opened by Hugh H. Young, M.D., of the Brady Urological Institute of Baltimore.

MEDICAL ARTS SOCIETY

In recent programs of this Society were noted:

October meeting:

1. "Paralysis of the Lower Extremities Following Toxemia of Pregnancy." Frank M. Hand, M.D. Discussion: J. J. Shugrue, M.D.
2. "Acute Hemorrhagic Pancreatitis with Recovery." W. Warren Sager, M.D. Discussion: William J. Mallory, M.D.

November meeting:

1. "Some Recent Developments in the Diagnosis of Gall Bladder Disease. (Illustrated with X-ray Pictures of Some Cases of Papilloma of the Gall Bladder.)" Claude Moore, M.D.
2. "Congenital Syphilis with Enlarged Spleen and Liver (Presentation of Patient)." J. M. Baber, M.D.

The present officers are: President, James W. Esler; Vice President, John C. Reisinger; Secretary-Treasurer, Alec A. Preece.

THE WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

The Woman's Auxiliary met 12 times during the year 1933–34. The activities included meetings with appropriate addresses, Red Cross aid, health instruction, social affairs and coöperative work with the Medical Society especially at the Annual Scientific Assembly. The following gives types of subjects discussed at meetings held in the morning followed by luncheon:

"What is Being Done for the Deaf?"
"Review of the History of the National Auxiliary as Well as Our Own for the Younger Members."
"Our Current Health Problems."
"The New Food and Drug Bill."
"Medical Economics."
"Talk on the Needlework Guild."
"An Account of the International Ophthalmological Conference in Spain."

The Public Relations Committee report that at Christmas time 96 pairs of filled stockings, 880 used and new garments, and toys were distributed. One hundred and fifty garments were made for the American Red Cross. The Motor Corps drove 350 hours delivering supplies to the Associated Charity families and the Social Service Group gave countless hours to sorting and wrapping, also helping with the Red Cross Roll Call.

The Health Committee arranged for a course of instruction on health topics. Under its supervision fruits and vegetables from the city gardens were canned. Seven thousand two hundred and ten surgical dressings for Emergency Hospital were made while the women listened to speakers on such topics as "Low Cost Balanced Meals," "First Aid," "Care of the Teeth," "Nursery Schools," "Sick Room Diet," "Marriage Guidance," etc. The Health Committee furnished luncheons twice for this group and then turned the meeting over to a C.W.A. teacher on adult education.

Three card parties were held during the year. A musicale, by the Auxiliary's own talent, was given. On one occasion entertainment was furnished for the regular meeting of the Medical Society in the form of a Glee Club Concert and buffet supper.

At the time of the Annual Scientific Assembly of the Medical Society of the District of Columbia, the Auxiliary met in the Mayflower Hotel. Luncheon and a business session were held on May 2, at which time the following invited guests addressed the members: Mrs. Robert Tomlinson, President-elect of the National Woman's Auxiliary; Mrs. Southgate Leigh, President of the Woman's Auxiliary to the Southern Medical Association; Mrs. W. Lett Harris, President of the Virginia State Woman's Auxiliary.

Recommendations from Mrs. Prentiss Wilson, President, 1933–34

As an objective for the coming year, Mrs. Willson recommended that the Auxiliary try to get an appropriation from Congress in the budget for the District of Columbia which will provide for Social Service in our city hospital, also that copies of *Hygeia* be placed in the Salvation Army branch headquarters.

Notes

The Membership Committee reports 18 new members were added to the rolls of the Auxiliary. Six resignations and 2 deaths were reported. The total membership now is 186 active members and 49 inactive members.

The Auxiliary has joined the Woman's Auxiliary to the Southern Medical Association.

Mrs. L. B. Castell, one of the members, has been elected President of the Parent-Teachers' Association.

The members of the Woman's Auxiliary were invited to meet with the Woman's Auxiliary to the Virginia Medical Society during their two-day convention in Alexandria, October 4–5, 1934. Several of the ladies were present at the business meeting and luncheon at the Belhaven Country Club on Wednesday, October 4, as well as at the reception at Gadsby's Tavern that night. On Thursday, October 5, about 14 of the members attended the luncheon at the Army and Navy Country Club, which was presided over by the President, Mrs. William Lett Harris of Norfolk, Va. It was a most delightful event, with addresses by several prominent Virginia doctors, and concluded with the installation of officers for the following year. This was the Alexandria Auxiliary's first opportunity to function as it is newly organized. They proved to be most pleasing hostesses.

Officers, 1934–35

Mrs. A. B. Bennett, President
Mrs. William Thornwall Davis, First Vice President
Mrs. Ralph M. LeComte, Second Vice President
Mrs. Lyman B. Tibbets, Recording Secretary
Mrs. Stuart O. Foster, Corresponding Secretary
Mrs. C. W. Culver, Treasurer
Mrs. Oscar Wilkinson, Historian

DISTRICT OF COLUMBIA SOCIETY OF CLINICAL LABORATORY TECHNICIANS

A meeting of the District of Columbia Society of Clinical Laboratory Technicians was held at Children's Hospital on October 4, 1934, the president, Mr. Willis R. Adams presiding. Dr. Oscar B. Hunter addressed the group on "The Newer Developments in Clinical Pathology." The next meeting of this Society will be held in January, 1935.

ERRATUM

Dr. Owen S. Gibbs, who was the author of the paper entitled "The Chemical Action of Nerves," appearing in Medical Annals, September, 1934, was designated M.D. instead of M.B., Ch.B. Edinburgh.

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA

VOLUME III — DECEMBER, 1934 — NUMBER 12

SURGERY IN THE TREATMENT OF PULMONARY TUBERCULOSIS*

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Twentieth-century surgery has produced no more important advance than in the operative management of pulmonary tuberculosis. Not many years ago any surgical procedure for this disease was considered ill-advised.

In 1821 James Carson of Liverpool urged the production of artificial pneumothorax, and in 1882 Forlanini of Pavia first practiced and developed it. To these two men is due much credit for laying the foundations of modern pulmonary compression therapy. De Céverille of Lausanne in 1885 performed the first operations undertaken to relax the tuberculous lung by thoracoplasty. Yet most of the development in this field has been made in more recent years. The results obtained by the use of various surgical procedures as an adjunct to the usual sanatorium treatment of pulmonary tuberculosis by Alexander, Sauerbruch, Archibald, and others, have removed this method of treatment from the field of experimentation and have very definitely established it as a most valuable addition to our armamentarium for the treatment of certain cases of this disease and one that should be, and will be, far more generally utilized than at present. The proper utilization of these procedures is offering to a large group with predominantly unilateral tuberculosis an excellent chance to escape certain death from tuberculosis and to become permanently well so that they may earn their living and return to their families and communities without fear of spreading infection.

A considerable number of cases of pulmonary tuberculosis will not improve in spite of the very best sanatorium treatment, and many continue to grow worse. It is in this group that surgery is particularly applicable. But it should not be reserved for this group alone, for it can be used very advantageously also in a large number of those not so far advanced.

Pulmonary compression, the objective of surgery in pulmonary tuberculosis, "constitutes a 'physiologic amputation'" since "stagnant secretions and products of degeneration are removed from the body and tend to cease to form because of pulmonary rest, subsidence of non-specific inflammation and encapsulation of tuberculous lesions."

Cavitation in this disease must be successfully overcome if any marked or sustained improvement is to be obtained, for in cavities small or large amounts of pus accumulate, the decomposition products of which play a major rôle in the production of the state of toxicity characteristic of these patients. In these pus-laden cavities tubercle bacilli multiply rapidly, and secondary infection with pyogenic organisms frequently occurs. There is also the ever present danger of aspiration of material from a cavity into the opposite relatively healthy lung and of hemorrhage. Many cases of cavitation cannot be successfully handled by medical care alone. There are cases of more or less extensive involvement without cavitation in which artificial pneumothorax would be helpful but cannot be obtained because of pleural adhesions. These are only some of the difficulties met with which may be overcome by surgical treatment.

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* Read before the Society, October 24, 1934.

From various statistics which have been compiled, it may now safely be said that 40 per cent or more of surgically treated cases are cured and another 30 per cent or more decidedly improved, and this with a direct operative mortality of from 1 to 2 per cent and an additional mortality during the first 6 weeks from causes indirectly connected with operation of about 10 per cent. And let it be again emphasized that this can be accomplished in that group of cases which can only be little helped by sanatorium treatment alone.

It, therefore, is incumbent upon physicians everywhere to acquaint themselves with the indications and contraindications for surgery and to see that their patients obtain the best treatment available.

In general, the patients chosen for operation should be those who have moderately or far advanced chronic tuberculosis, with or without hemoptysis, and with or without cavitation or empyema, whose lesions are principally confined to one lung; whose general condition is fairly good and in whom all other treatment, including a sufficiently long sanatorium regimen and attempted artificial pneumothorax, have failed. The more frequently used of the several surgical procedures with some of their indications and contraindications will be considered.

Artificial Pneumothorax

Artificial pneumothorax, or the introduction of air into the pleural cavity on one or both sides to partially or completely collapse the lung in order to promote healing by affording more rest, is extremely valuable in a large number of cases. While it is really a surgical procedure, yet since its value has been so generally recognized and since it is now generally carried out by the medical attendants, it will not be considered in detail here.

Although there are many advantages of artificial pneumothorax, there are also a good many disadvantages. It is certainly true that a good thoracoplasty is better than a bad pneumothorax. Among many experienced physicians there is a growing preference for thoracoplasty rather than pneumothorax for lung cavities because of the permanence of the compression. Certainly, if after a fair trial artificial pneumothorax does not produce satisfactory collapse, further surgical interference either in conjunction with the pneumothorax, as phrenicectomy or internal pneumolysis, or without it, as paraffin filling or thoracoplasty, is urgently indicated.

Phrenicectomy

This is performed by removing a section of the phrenic nerve as it passes downward and medially over the anterior scalene muscle, together with a section of any accessory phrenic nerve that may be present, or by picking up the phrenic nerve on the anterior surface of the scalene and carefully evulsing it. This results in paralysis of the corresponding half of the diaphragm which then rises upward for a distance of from 2 to 12 cm. with a resultant decrease in lung volume of from 10 to 30 per cent and great diminution in lung work. If only temporary paralysis of the hemidiaphragm is desired the phrenic nerve is simply crushed instead of cut or evulsed. Its function then returns in about 6 months. After phrenic interruption the maximum rise of the hemidiaphragm does not take place until complete atrophy and stretching of the diaphragm have occurred. This requires several weeks.

This is a relatively simple operative procedure. There is practically no mortality from it, and it causes very little discomfort or inconvenience to the patient. It should usually be performed through a small incision under local anesthesia.

The improvement after phrenicectomy is frequently quite marked, and within a week or two there is a marked decrease in temperature, pulse, cough, sputum amount and improvement in the general condition. Since phrenicectomy influences the lower lobe more than the upper its effects are more marked if the lung lesion is more basilar. Even though the diaphragm be bound down by adhesions which prevent its rising into the chest and relaxing the lung, phrenicectomy, by stopping the movements of the diaphragm, checks hemoptysis and relieves cough.

Phrenicectomy alone seldom produces sufficient pulmonary relaxation and compression and must, therefore, be combined with one or more of the other surgical procedures. Its indications may then be considered under two heads:

A. AS AN INDEPENDENT PROCEDURE IN:

1. Acute progressive caseous type of tuberculosis when pneumothorax is prevented by adhesions and conditions prevent other operative procedures.

2. Chronic types of the disease in which pneumothorax cannot be induced and thoracoplasty or filling is contraindicated; phrenicectomy may help on the more badly diseased side.

3. Early cases of unilateral tuberculosis in which sanatorium treatment does not seem to bring about favorable progress.

4. Definitely basal tuberculosis.

5. To relieve specific symptoms as:

(a) Cardiac embarrassment caused by the pull of a fibrosed lung.

(b) Dyspnea and pain resulting from a scarred lung and diaphragmatic adhesions.

(c) Hemoptysis.

(d) Persistent coughing and vomiting incident thereto.

(e) Hiccough in a hopeless case.

6. With moderate unilateral involvement without cavitation and without enough involvement to justify pneumothorax.

B. SUPPLEMENTARY TO SOME OTHER SURGICAL PROCEDURE:

1. Artificial pneumothorax:

(a) When there is only incomplete collapse because of basal or lateral adhesions between the lung and chest wall; when basal adhesions are causing pain, or when the lung is expanding under a pleural effusion.

(b) When pneumothorax is satisfactory, in order to lessen the number of refills, or to lessen the incidence or amount of pleural effusion.

(c) To diminish the size of the hemothorax when pneumothorax is discontinued in order that the thorax may fit the size of the newly expanded but shrunken lung.

(d) To take the place of the pneumothorax when for any reason it must be stopped.

2. Extrapleural pneumolysis and "filling" when this procedure alone does not produce sufficient collapse.

3. Extrapleural thoracoplasty:

(a) To sufficiently improve a very ill patient so that thoracoplasty may be safely undertaken.

(b) To test the better lung in order to determine if suspicious lesions are active or not, or if quiescent whether they will stand further compression of the badly diseased side.

(c) To increase the amount of compression gained by thoracoplasty.

(d) As a complement to a partial thoracoplasty.

4. Intercostal neurectomy, to increase pulmonary compression produced by this procedure.

SCALENOTOMY

This consists in section of the anterior, middle and posterior scalene muscles just above their insertion on the first and second ribs. It results in a dropping of the upper ribs, especially the first, thereby decreasing the size of the thoracic cavity and aiding in lung compression. There is practically no mortality from it and its morbidity is very low.

Some men now advocate accompanying every phrenicectomy by scalenotomy. It does not appear that this is justified and is not generally performed.

Scalenotomy is helpful in securing satisfactory collapse of an upper lobe cavity, and it seems that this is possibly the only type of case in which the benefit derived warrants its performance.

INTERCOSTAL NEURECTOMY

This consists in the removal on one side of two or more centimeters of the second to the eleventh intercostal nerves at the costal angles distal to the posterior rami. If temporary intercostal paralysis be clearly indicated the nerves may be crushed rather than sectioned. The diminution in expansion resulting from the paralysis of the intercostal muscles aids in resting and relaxing the diseased lung.

The operation is usually performed under local anesthesia and is attended by very little risk. However, the amount of lung compression is not great and in itself is not sufficient. The procedure is, therefore, not frequently used but is serviceable in those cases in which for some reason a more extensive procedure is contraindicated. Here, frequently sufficient improvement is obtained by the intercostal neurectomy to permit the more radical procedures later.

Closed Intrapleural Pneumolysis

Cases are frequently encountered in which it appears that a satisfactory collapse could be obtained by artificial pneumothorax, if it were not for adhesions extending from the lung to the parietal pleura. If these adhesions are relatively long and thread-like or thin bands they may be sectioned by the cautery through a thoracoscope. In properly selected cases this is readily accomplished under local anesthesia through a small opening into the chest, without much risk and with little inconvenience to the patient.

The chief dangers are:

1. Hemorrhage from a vessel within the adhesion, too large to be controlled by the cautery.
2. Infection resulting in empyema from:
   (a) Poor technic, and far more frequently
   (b) Section of infected lung tissue which is "tented" out into the adhesion.

This procedure is particularly applicable in cases in which there is a thin-walled cavity of moderate size which is held open by adhesions. Thoracoscopic severance of the adhesions and continuation of the pneumothorax will usually result in satisfactory collapse. It is important that the pneumothorax be continued immediately and long enough to prevent re-formation of the adhesions.

Open Intrapleural Pneumolysis

An opening is made into the pleural cavity and, thus, under direct vision cutting and tying, if necessary, adhesions which are preventing the collapse of a cavity. General anesthesia is usually required, but in some cases it may be accomplished under local. The chief dangers are:

1. Hemorrhage from large or many small vessels within the severed adhesions.
2. Tearing into infected lung tissue or a cavity. Traumatic serous effusion often follows and must be aspirated.

The procedure is particularly applicable in cases of relatively thin-walled cavities, the collapse of which by pneumothorax is prevented by bands of adhesions too large for section by the thoracoscopic method. However, generally speaking, thoracoplasty is preferable to pneumothorax which must be preceded by open intrapleural pneumolysis.

Extrapleural Pneumolysis

Extrapleural pneumolysis consists in separation of the lung or a part of it, together with its adherent visceral and parietal pleurae, from the ribs and chest wall. If then a "filling" is done the lung is firmly compressed. Various things, as paraffin, fat, pedicled muscle graft, an inflatable rubber bag, may be used as the "filling." Only paraffin filling will be considered here.

In this procedure a site over the cavity in the lung is selected. Under local anesthesia an incision is made, a portion of a rib, or two, if necessary, is subperiostially resected, and the parietal pleura carefully stripped from the chest wall with the finger. The space thus produced is filled with a paraffin mixture, not over 600 gm. being used, thus collapsing the cavity beneath. If the pleura is inadvertently opened it should be closed, the operation abandoned and another attempt made at a later date.

It sometimes happens that a satisfactory collapse is not obtained due to the fact that the lung recedes too far under the sternum or for some other reason. The paraffin can then be removed, and a thoracoplasty performed if necessary.

Paraffin "filling" has the advantage of placing only that portion of the lung immediately compressed out of function and not interfering seriously with the function of the remainder. It is particularly serviceable in the treatment of upper-lobe cavities and in those cases in which there is such extensive involvement of the contralateral lung that a more extensive procedure as thoracoplasty is prohibited.

EXTRAPLEURAL PARAVERTEBRAL THORACOPLASTY

This is the subperiosteal removal of greater or less lengths of several or all of the ribs from the first to the eleventh inclusive on one side. The chest wall is thus allowed to drop inward, relaxing and compressing the lung and collapsing any cavity therein. The number and lengths of ribs removed is determined by the size, location, and thickness of the wall of the cavity. In some cases, the removal of portions of three or four ribs produces a satisfactory collapse, but to secure complete collapse of large thick-walled cavities, it is sometimes necessary to remove full lengths of the ribs from and including the transverse vertebral processes to and including a portion of the sternum, of several ribs and long sections of the remaining of the first eleven ribs on the affected side.

Thoracoplasty is an extensive, and can be a shocking operation. With experience, a complete thoracoplasty in one stage can be performed quickly, and it seems to the surgeon to be a simple procedure. Consequently, the temptation to complete it in one stage is great, but should be avoided. The safest routine procedure is to divide a complete thoracoplasty into three stages: removal of the first three ribs at the first stage, the next four at the second, the next four at the third, and the performing of an anterolateral thoracoplasty as a fourth stage if it is found necessary to remove the anterior portions of the ribs to secure satisfactory collapse. Important reasons for dividing the procedure into two or more stages are: (1) Time is afforded for the circulatory system to adjust itself; (2) time is afforded for the mediastinum to adjust itself and become fixed; (3) less toxic material is squeezed out of the lung at one time into the general system; and (4) there is a lower mortality rate. Sometime, 6 or 10 weeks, after the ribs are removed, new ribs form and unite with each other, forming a more or less continuous sheet of bone which maintains the pulmonary compression and prevents respiratory mobility. It is very important that during this time "wedge compression" and a suitable thoracoplasty brace be used so as to secure maximum compression, in order that newly forming ribs will form in this position, so that thoracoplasty-scoliosis will be prevented and to aid in cough. If proper attention is given this postoperative care, deformity resulting from the thoracoplasty is only slight.

Thoracoplasty is indicated in those cases in which it has been impossible to secure satisfactory compression and collapse by any of the less radical procedures, and in which there is a relatively healthy contralateral lung. Unless artificial pneumothorax can be undertaken and completed under favorable conditions, and unless it can be obtained alone or by the addition of only a simple supplementary operative procedure, thoracoplasty offers a better prognosis. A properly planned and performed thoracoplasty gives excellent results.

THE TREATMENT OF TUBERCULOUS EMPYEMA

The mortality rate in mixed tuberculous and pyogenic empyema is considered by many to be from 98 to 100 per cent, and many consider that a person with this disease is never cured. In many instances, the treatment of the tuberculous empyema, regardless of the type, is limited to aspiration, open or closed drainage being resorted to only when the patient is desperately ill.

The successful management of these cases depends upon their proper classification and the employment of the therapeutic measures applicable in each class.

The type of empyema is determined by aspiration of the fluid, which is then examined by smear, culture, guinea-pig inoculation when necessary, and microscopic examination of an excised portion of parietal pleural scar, which should be routinely removed in those cases which are openly drained. A single smear and culture which fails to demonstrate pyogenic organisms should not always be relied upon, especially if the patient is highly toxic and does not respond properly to aspirations. These cases should be classified into 4 groups as follows:

Type 1. Pure tuberculous empyema without pyogenic infection and without evidence of active pulmonary tuberculosis. The object of treatment here is to bring about lung expansion with consequent obliteration of the empyema cavity. This should be accomplished by repeated aspirations, perhaps with temporary partial air-replacement. Open or closed drainage should practically never be done because of the almost certain addition of pyogenic infection to the empyema. Extrapleural thoracoplasty is only indicated when a reasonably prolonged trial of aspiration has failed to result in complete lung expansion, and not then if the quantity of pus is stationary and the patient asymptomatic.

Type 2. Mixed tuberculous and pyogenic empyema, but without evidence of active pulmonary tuberculosis. The object there is to evacuate the pus, because of its content of pyogenic organisms and to secure lung expansion to obliterate the empyema cavity. This may be accomplished by repeated aspirations with or without irrigations or instillations or germicidal substances. Because of the pyogenic infection, prolonged use of aspiration is usually inefficient and dangerous, and closed or preferably open drainage becomes necessary. Phrenicectomy, with the resultant rise of the hemidiaphragm, is helpful in the obliteration of the empyema cavity and should be performed early before the diaphragm has become fixed by a rigid pleural scar. If the treatment as outlined fails to close the empyema complete, and if the open cavity finally shows no disposition toward progressive closure, an extrapleural thoracoplasty and painting of the costal periosteum with 10 per cent formalin should be done. If, after several months, a residual cavity still remains, it should be obliterated by a one-or-more-staged Schéde thoracoplasty.

Type 3. Cases with pure tuberculous empyema without associated pyogenic infection but with active pulmonary tuberculosis. The object here is to stop the formation of pus in the pleural cavity and usually to maintain collapse of the tuberculous lung. In many cases this may be accomplished by repeated aspiration with air-replacement, thereby maintaining the lung collapse. Phrenicectomy is helpful in maintaining the collapse, especially if there is a tendency toward obliterative pleuritis. In many cases a fair trial of aspiration does not render the pleura free of pus-formation. Closed or open drainage is strictly contraindicated because the empyema is a purely tuberculous one. In such cases, extrapleural thoracoplasty should be done if there is no specific contraindication to it and especially if it is desirable to produce permanent collapse of the diseased lung. It usually results in cessation of pus-formation in the pleura.

Type 4. Mixed tuberculous and pyogenic empyema with associated active pulmonary tuberculosis. The object here is to evacuate the pus, sterilize the empyema cavity and usually to maintain collapse of the diseased lung. Phrenicectomy should usually be performed early, to relax the lung and diminish the size of the empyema cavity. Aspiration and antiseptic irrigations or instillations only rarely are effective. Therefore, closed or open drainage should be resorted to when a brief trial of aspiration results in only slight improvement. Prolonged drainage will produce partial or complete expansion of the lung, which in most cases is undesirable. On the other hand, permanent collapse may be prohibited by the presence of progressive tuberculosis in the contralateral lung. If permanent collapse is indicated, and especially when prolonged drainage has resulted in improvement of the general condition but in only partial obliteration of the empyema cavity, extrapleural thoracoplasty should be performed. This with formalinization of the periosteum will either obliterate the empyema cavity or reduce its size, depending upon the size before thoracoplasty and the rigidity of its walls. Any residual cavity remaining after several months should be closed by the Schéde thoracoplasty.

With the recognition of the importance of distinguishing between the 4 absolutely distinct types of disease and the utilization of a high degree of individualization in the application of the therapeutic measures that may properly be applied in each type, good results can be obtained in the treatment of tuberculous empyema.

Jones and Alexander recently reported a group of 70 cases treated in the general manner outlined here. In this group there were 54.3 per cent cured, 8.5 per cent improved, 4.3 per cent not improved or worse, and 3.9 per cent dead.

Important Points in Pre- and Post-operative Treatment

Most of these cases have had prolonged bed rest with the result that most of their muscles, including the cardiac muscle, are flabby. If possible, the cardiac muscle should be toned up by some exercise (as the patient sitting up in bed) before it is required to stand the strain of the operation. The hemoglobin should be well up and transfusion performed, if indicated.

Cough reflex should not be interfered with more than is absolutely necessary, for by so doing the chance of aspiration of infected material into the healthy lung is greatly increased. Therefore, no atropine should be given and no more morphine than is really necessary, never more than 1/6 grain hypodermically at one dose.

All operations should be performed with the patient in the Trendelenburg position so as to aid in the expulsion of infected material by gravity. Urging them to cough is also helpful.

Local anesthesia should be used whenever possible. When general anesthesia is necessary, nitrous oxide and oxygen or ethylene, neither of which is irritating and from which the patient reacts quickly, should be used. Prolonged sleep with abolition of the cough reflex greatly increases the danger of aspiration of infected material into the contralateral lung.

Care and judgment should be exercised as to when to operate and to avoid too much operating at one time.

Comment

There is, of course, no single rule by which it may be determined what particular operative procedure should be used in any given case. Each case must be studied carefully in order to determine whether surgery is indicated, and if so, what operative procedure is best suited to that individual case.

The extent of compression obtained is determined by the general condition of the patient, amount of sputum, and whether positive for tubercle bacilli and the X-ray findings.

After operative interference the patient usually remains in the surgical hospital for from 2 to 4 weeks and then continues sanatorium treatment for from 2 to 6 months.

Not all of the surgical procedures used in the treatment of pulmonary tuberculosis nor all the indications and contraindications of those mentioned have been discussed, but enough has been said to indicate the extent to which this field has been developed and the great value in many cases that may be expected from its proper use.

Summary

1. The benefit to be derived by the employment of surgery in conjunction with sanatorium care in the treatment of certain selected cases of pulmonary tuberculosis is emphasized.

2. The more frequently used surgical procedures are enumerated and some of their indications and contraindications considered.

3. The importance of the proper classification of cases of tuberculous empyema is emphasized and the treatment of each class outlined.

4. Certain important points in the operative, pre- and post-operative management of these cases are mentioned.

BIBLIOGRAPHY

Jones, J. C., and Alexander, J.: Results in 70 Consecutive Cases of Tuberculous Empyema. Am. Rev. Tuberc., 1934, 29, 230.

DISCUSSION

Dr. Charles P. Cake: First, I want to express my appreciation to Dr. Morris for his excellent presentation of this very timely subject. There is no doubt that the introduction of collapse therapy in the treatment of pulmonary tuberculosis has proven to be the greatest advance in the battle against this disease since the introduction of the rest cure. At the present time we have no means of attacking the tubercle bacillus directly once it has gained entrance to the body. We can only influence the disease indirectly by improving the general condition of the patient and by helping nature repair the damage that has already been done. Many of the symptoms of pulmonary tuberculosis are caused by absorption of toxins from the diseased areas with consequent speeding up of the vital processes and an increase in the catabolism of the body. Our aim must be to halt this waste. The most important means we have at present to accomplish this is rest. In cases of tuberculosis of the bones and joints, the orthopedists immobilize the affected joint. In cases of pulmonary tuberculosis, we do what we can to reduce the activity of the lungs by putting the patients to bed and in appropriate cases applying collapse therapy. Bed-rest still remains the keystone of modern treatment. Whatever other measures we employ are aimed at affording additional rest to the diseased lung. To accomplish this we have the various forms of surgical collapse which temporarily or permanently reduce or eliminate entirely the functioning of the diseased lung. Since, as Dr. Morris has said, this form of treatment has gained recognition and approval, the question arises: when should it be employed? The answer to this would be much simplified if we had any criteria by which we could predict with accuracy which lesions would clear up on bed-rest alone and which would need the additional rest afforded by collapse. However, we have no such criteria. Therefore, if we would do the greatest good to the greatest number of our tuberculous patients we should employ it in every case unless there is some definite contraindication. The chief contraindications to collapse therapy may be enumerated as follows: bilateral involvement of such an extent that the condition is hopeless, obvious cardiac disease, miliary tuberculosis, advanced emphysema, asthma, nephritis not of toxic origin, and any other pathological condition which renders the life expectancy of the patient brief even if his tuberculosis were controlled. I want to urge particularly the application of collapse therapy early in the course of the disease. because it is in the early cases that our most brilliant results are obtained. I submit that it is more conservative to use it in cases of minimal tuberculosis when some simple measure such as artificial pneumothorax or phrenicectomy may be enough to produce a cure, than to run the risk of having the lesions progress to such an extent that only some major surgical procedure can offer hope of benefit or perhaps no form of treatment can offer hope. Finally, there is the economic side of the picture to be considered. In tuberculosis this is a very distressing problem, and if we can do anything to lessen the financial burden on the patient, his family, or the community it is our duty to do so. While we know that a certain number of patients will get well on bed-rest alone, we also know that even these will get better more quickly if they are given the benefits afforded by collapse therapy.

Metabolic Disturbances in Relation to the Teeth.—Recent findings indicate that a disturbance of the calcium-phosphorus balance exerts a deleterious influence on the teeth, making them more prone to dental caries. In the light of this knowledge, it seems necessary that dental caries should no longer be treated solely by reparative means but that true prevention, by systemic treatment, should be instituted. In the future, the principal duty of the dentist will be, as it has been in the past, the repair of the ravages of dental caries and pyorrhea alveolaris. On the other hand, the responsibility for the prevention of dental disorders will rest on the shoulders of the medical profession.—*Extract from article by* Charles F. Bodecker, D.D.S., *New York City, appearing in Bulletin of The New York Academy of Medicine, September, 1934.*

THE VALUE OF ARTIFICIAL PNEUMOTHORAX IN TUBERCULOSIS*

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The use of artificial pneumothorax in diseases of the lungs has increased steadily during the past 20 years and has advanced by leaps and bounds during the past 5 years. In 1913, 21 years ago, we did the first artificial pneumothorax work done in Washington, at the Tuberculosis Hospital. I went to Eudawood Sanatorium and worked with Dr. Martin Sloan in order to get the proper technic. At that time artificial pneumothorax was not in use at Trudeau Sanatorium, Saranac Lake, or in the Maryland and Virginia State Sanatoriums. It was being done in a few places in North and South Carolina, but it was still decidedly in the experimental stage. For some years we had only a few patients a year on this treatment, using it entirely in hopeless cases in which there had been no response to prolonged bed rest, diet, etc., and this was the attitude adopted by the few scattered workers who were experimenting in its use.

In my opinion the general use of artificial pneumothorax was delayed many years due to this fact, namely, the choosing of far advanced cases in which there was not only tuberculosis of the lungs but tuberculosis of other organs, such as the intestinal tract, liver, spleen, kidneys, etc. The use in these advanced cases also gave us a large percentage of that dreaded complication, spontaneous pneumothorax with resulting empyema.

As the years passed, however, its use was gradually extended to earlier cases, and the percentage of complications became less and less until at the present time it is the opinion of most observers that pneumothorax should be used immediately in early unilateral cases. We can assure such patients that the dangers are practically nil and that the results will be prompt and spectacular.

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* Read before the Society, October 24, 1934.

Recently pneumothorax has been advocated as a treatment for lobar pneumonia. Behrend and Cowper report 11 patients treated with markedly beneficial effect in 9. The pleural pain disappeared immediately due to the separation of the parietal and visceral pleura, the temperature dropped promptly and the patients were able to sleep without opiates. I have had an opportunity to use pneumothorax in only 2 cases of pneumonia, the treatment resulting in prompt improvement in these particular cases. I believe its use in pneumonia will become much more frequent, and in another year or two we may find it has an established place in the treatment of this treacherous disease.

Weiner and Kavee report 26 tuberculous patients with diabetes treated with pneumothorax and insulin. The results were quite favorable. He obtained 25 per cent clinical cures, which is remarkable in this type of case. I have had only 2 cases with diabetes, 1 improved and 1 died.

Artificial pneumothorax has its place in the treatment of acute pulmonary abscess. If used early it gives excellent results. We have had 36 cases with 30 complete, prompt cures, and none of them has had a later relapse.

I wish to report briefly 77 cases of pulmonary tuberculosis treated in private practice with artificial pneumothorax during the past 5 years. I have purposely left out of this report cases from other cities in this country or from abroad which I have treated once or twice while they were in Washington temporarily, for the obvious reason that it is difficult to keep up with their later history, although most of them would be cured cases eventually and would give a higher percentage of cures in my series. I have also not reported on any cases seen in hospital practice. Fifty-seven of the cases I am reporting had started their pneumothorax in sanatoria outside of Washington and had come to me for refills after their discharge from the sanatorium, which means that they were in most instances favorable cases which had been discharged with a good ultimate prognosis. This accounts for the fact that I have an exceptionally high percentage of apparent cures and a low death rate. Twenty of the patients in this series were started by me and never left Washington, although I urged sanatorium treatment in every case. The percentage of apparently cured and arrested cases is nearly the same as in the sanatorium group, but the mortality rate is higher due to the fact we used gas on several far-advanced hopeless cases, simply for temporary relief of symptoms. Of the 57 ex-sanatorium cases treated, 38 are apparently cured, 3 are arrested, 10 are improved, 2 are unimproved and 4 are dead. Of the 20 cases started by me in Washington, 8 are apparently cured, 5 are arrested, 2 are improved, 1 is unimproved and 4 have died. Of the entire series of 77 cases, 54 or 70 per cent are either apparently cured or arrested, 12 are improved, 3 are unimproved and 8 are dead (a mortality of about 10 per cent and recovery of 70 per cent). Several of the patients classed as improved show every indication of becoming apparently cured when sufficient time has elapsed to so class them, which means that in another year or two we can safely say that we will have about 75 per cent of recoveries. When I use the term apparently cured it means that these patients have been free of all symptoms and signs of active tuberculosis for a period of 2 years or more under everyday working and living conditions; and the term arrested means a period of 6 months or more free of tuberculosis under usual working conditions. Most of these patients who are employed are doing desk work, but there are several who are doing manual labor of some form such as that of painters, skilled mechanics, plasterers, etc. Most of these patients did not return to work until they had been taking gas for over a year, but 3 of the group returned to active duty against my advice in 2 months after starting their treatment and have continued working with no symptoms of activity. I do not advocate returning to active life in such a short time, but these cases demonstrate the rapid healing of the tuberculous lesion which takes place after the lung is collapsed. It is my feeling that 2 months of collapse therapy gives as much healing of the lesion as a year on absolute bed rest.

For the benefit of the members of the Society who are not familiar with the technic of artificial pneumothorax I will explain briefly the method of administration. The gas used is filtered air which is introduced into the pleural cavity through a small aspirating needle connected with a water manometer. Novocain is used, and the operation is practically painless. Several treatments are given at intervals of a day or two to get the lung well collapsed, and later refills are given at intervals of 2, 3 or even 4 weeks, depending on the case, to replace the gas which is absorbed between treatments. Patients can take these refills in the physician's office and do not have to rest afterwards, since there is no reaction or discomfort. I have at present about 40 patients taking gas, and 35 of them are free of all symptoms and doing a normal days work.

Conclusions

Artificial pneumothorax used in this series of 77 early and advanced unilateral cases of pulmonary tuberculosis produced recovery in approximately 70 per cent of the patients. Its use in early unilateral cases only should give a much higher percentage of cures.

It is my opinion that artificial pneumothorax should be used immediately in all cases of early unilateral active tuberculosis and that these patients should be urged to immediately enter a sanatorium where the treatment can be given. If they will not or cannot have sanatorium treatment they should be urged to take pneumothorax treatment at home.

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Amebiasis in Boston.—During the year 1929, by courtesy of the Medical Staff of the Peter Bent Brigham Hospital, Dr. L. R. Cleveland had the opportunity to examine seventy stools from the same number of unselected cases in the wards of that hospital.

Entamoeba histolytica	2	(2.8 per cent)
Entamoeba coli	1	
Endolimax nana	1	
Dientamoeba fragilis	5	
Iodamoeba buetschlii	0	
Total	9	(12.8 per cent)

Of the amoebae listed, only E. histolytica is pathogenic. *Extract from article by* George Cheever Shattuck, M.D., *Boston, appearing in New England Journal of Medicine, December 6, 1934.*

REPAIR OF VESICOVAGINAL FISTULAS*

Report of Two Cases

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It occasionally happens that a patient suffering from a vesicovaginal fistula first consults a urologist for the relief of her distressing incontinence. I have observed and treated two such cases, separated by a long interval of time, the second one quite recently. These are the only times I have invaded the province of the gynecologist. Certain features in each case are quite interesting and unusual and would seem to justify a brief report. In both cases the fistula was intentionally produced surgically; in the first one for the relief of an intolerably distressing cystitis; and in the second to gain access to a vesical polyp or papilloma. In each case the underlying condition for which the fistula had been produced had cleared up at the time it came under my observation, but no attempt had been made to repair the damage to the vesical floor. The result was distressing in the extreme; incontinence was complete, the urine trickled constantly from the vagina, and the exposed surfaces were irritated by the continual bath of urine. Social intercourse was restricted by the abnormal condition and in the second case a resumption of the usual occupation was impossible.

Successful repair was easily accomplished in both cases by a relatively simple surgical procedure. Normal bladder function was reëstablished, and the patients resumed their normal activities. The results have been permanent; in the first case for a period of many years, in the second of 6 months.

Report of Cases

Case 1: Mrs. W., 60 years of age, came under observation, October 16, 1917, in a curious roundabout way. She had been operated upon 11 months before in New York State, and a vesicovaginal fistula had been made. A second operation, suprapubic cystotomy, was later advised, and she appealed to her 2 nieces in Washington for advice. They in turn sought the advice of Dr. Christie, a member of the same church, who suggested that they have their aunt come to Washington for examination. The history of her previous illness is briefly as follows: In March, 1914, she was seized with a severe attack of "inflammation of the bladder," characterized by frequency of urination, pain on voiding, especially at the end of the act, and the passing of bloody urine. She did not consult a physician, but "took some medicine and felt better in a short time." Fifteen months later (June, 1915) she complained of dizziness, attacks of nausea, and pain in the region of the appendix. A physician was called who prescribed but made no examination. She continued "ailing, one day being good and two or three bad days" for the next 6 months, when she had another severe attack of pain similar to the first. One month later she was taken to a urologist who examined her twice. Apparently the bladder was acutely inflamed and exceedingly intolerant of instrumentation, and examination was difficult because of bladder spasms. It was thought at first she had cancer of the bladder, but this diagnosis was changed after the second examination. For the next 6 months the bladder irritation was so marked that she had almost constant dribbling of urine. She then received bladder treatments by irrigations and electricity for a period of 3 months. During this time (August, 1916) she had chills and fever lasting 2 weeks, ascribed to an attack of summer grippe, following which the bladder symptoms again became severe. The chills and fever recurred in October, and the following month (November, 1916) she entered the hospital, where the vesicovaginal fistula was made. The distressing bladder symptoms were gradually relieved by this procedure, and she was much more comfortable for the next 8 months except for the total incontinence. In August, 1917, she was seized with another severe attack of chills and fever accompanied by nausea and vomiting from which she had not fully recovered at the time she came under observation. This was the immediate cause of seeking further medical aid.

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* Read before the Washington Urological Society, October 15, 1934.

She was a thin, spare woman, slightly sallow, but in fairly good general condition despite her recent prolonged acute illness. Urine was escaping continuously from the vagina through a fistulous opening in the anterior vaginal wall, and none was passed through the urethra. I was unable to collect a specimen by catheter passed through the urethra or the fistulous opening. A specimen collected from the vagina was perfectly clear and free from pus. Abdominal examination was negative for tenderness or rigidity. Neither kidney was palpable. X-ray examination showed a shadow over the kidney area the size of a hickory nut, interpreted as a stone in the lower pole of the right kidney. Cystoscopy was difficult on account of the lack of distention due to the fistula. The bladder mucosa was normal. The left ureteral orifice was normal; the right was markedly retracted. Catheterization of the ureters was not feasible owing to lack of distention. Renal function was satisfactory as measured by the dye test. It was evident from the history and our examination that the trouble was in the right kidney; that no urine was escaping from this side, and that the bladder infection had cleared up as a result of an autonephrectomy. It was decided, therefore, to deal first with the lesion in the right kidney and subsequently to repair the vesicovaginal fistula.

At the first operation right nephrectomy was performed, October 25, 1917. The kidney, exposed in the usual way, was surrounded by a thick adherent fatty capsule. The ureter, the size of one's thumb, was stretched taught. This was ligated and severed. The densely adherent kidney was freed, its pedicle was ligated, and it was removed. Closure was made in the usual way with "cigarette" drainage. The kidney was about half normal size and markedly lobulated, the lower pole formed by a rounded nodule, yellowish white on the surface. On section this was a large cavity filled with a putty-like substance corresponding in size with the shadow on the x-ray plate. Multiple abscesses replaced the tips of the papillae, producing a typical picture of one type of chronic tuberculosis. She left the hospital in 2 weeks with the wound solidly healed. Subsequently a shallow sinus formed which healed rapidly. The second operation was performed on January 9, 1918, for repair of the fistula, which was carried out under local infiltration anesthesia. A circular incision was made around the fistulous opening in the anterior vaginal wall. This was extended laterally on either side, and flaps were dissected up above and below. The fistulous tract was then dissected free to and including a cuff of bladder mucosa. Sutures of fine chromic catgut were then placed in such a way as to turn the edges of the bladder wound inward toward the bladder cavity, closing the wound vertically. A second row of sutures was placed to reinforce the first one. The vaginal mucosa was then closed transversely. The bladder was drained by an indwelling Pezzer urethral catheter for 8 days. Following its removal she voided naturally. There was no leakage. She left the hospital on the tenth day.

I have followed this patient for many years. On the occasion of her many trips to Washington to visit her nieces, she never fails to call on me. The remaining kidney has escaped infection, and the repair of the fistula has been permanent. I have never had a more appreciative and grateful patient.

Case 2: In this case the fistula was of much shorter duration, and was made for an entirely different purpose. Miss G., aged 58 years, was referred to me by Dr. Gladding on April 1, 1934, on account of leakage of urine. For 2 years she had had intermittent hematuria but had not consulted a physician, since the bleeding had always stopped of its own accord and she had suffered no pain. In November, 1933, she was ill with bronchitis and asthma. With a temperature of 105°F. she consulted a physician who treated her bronchitis, and finding the urine very bloody he advised cystoscopy. For this examination she entered a New York Hospital under the care of a well-known urologist. A diagnosis of benign tumor of the bladder was made and excision advised. On account of her condition this was not carried out until January 18, 1934. The records show that the bladder was opened through the anterior vaginal wall, the tumor pulled down and excised with an electric knife, and the bladder drained by a retention catheter through the vagina. The explanation offered for this approach was that in this case it was considered easier than a suprapubic one. Apparently drainage was maintained for 15 days, as the patient states that on February 4 she noticed leakage of urine which she could not control and which continued. Cystoscopy was done later and an operation for closure of the fistula was advised by a member of the staff. She declined this and was discharged March 2, coming to Washington immediately to visit relatives because she was unable to resume the duties of a responsible position in New York.

She was a large woman, active and alert and in good general physical condition. There was constant dribbling of urine from the bladder. Cystoscopy revealed the bladder mucosa normal. At the apex of the trigone and almost within the grasp of the sphincter there was the lenticular opening of a vesicovaginal fistula. She was advised that surgical repair offered the only means of relief of her distressing condition. (Details of further study are omitted.)

The operation was performed, April 6, 1934, under low spinal anesthesia. A Pezzer catheter was first placed in the bladder. The same technic employed in Case 1 was carried out. It seemed important to close the bladder wound by a vertical row of sutures in line with the urethra, using interrupted sutures of fine chromic catgut. A second row of sutures of the same material was placed to relieve tension and to pick up any fibers of the sphincter which might have been severed in the first operation. The vaginal mucosa was closed by a single row of sutures placed horizontally. Packing soaked in mercurochrome and laid against the operative field completed the operation. The after-treatment consisted chiefly of daily irrigation of the bladder and changing the vaginal packing. The retention catheter was worn 10 days. Following its removal the patient voided normally and without discomfort varying amounts up to 300 cc. at a time. There was no leakage. She left the hospital on the twelfth day. At cystoscopy, 24 days after operation, the bladder appeared perfectly normal, and it was difficult to recognize the location of the operative repair. She returned to her position in New York. Since then she has had 2 slight recurrences of hematuria for 1 day each, first following a sharp paroxysm of coughing, and again after a vomiting spell. There have been no other bladder symptoms, she retains the urine for a long period and voids easily and there is no leakage. Inspection of the bladder on September 10, 1934, showed a small papilloma, the size of a pea, at the base in the midline and a second one just inside the sphincter at 11 o'clock. These were rapidly and thoroughly destroyed by fulguration under local anesthesia in the office by Dr. Dorman.

ABSTRACT

"The Innervation of Muscles of the Abdomen with References to Surgical Incisions,"* **Charles S. White, M.D., F.A.C.S.**

Herniae following operation upon the abdomen can usually be put in two classes, those that follow immediately and those of a remote origin. We are particularly interested in the latter type and believe that a certain percentage of them are due to disturbance of the innervation as a result of a division of nerves. With a view of tracing this innervation, a group of junior students was assigned to dissection of the abdominal muscles with particular attention to their innervation, under the direction of Dr. G. B. Jenkins, professor of anatomy at the George Washington University School of Medicine. The dissections indicated very clearly that many abdominal incisions divide the nerves. While the McBurney incision may not divide many nerves, strong traction may injure a nerve and the suture not uncommonly picks up a nerve in closing the wound. This explains to some observers the frequency of right inguinal herniae after McBurney incisions. The lesson taught by these dissections is that the incision should, so far as practical, avoid damage to the innervation of the muscles. The failure to observe this principle is followed in many instances by a relaxation, or a frank hernia, in the region of the incision.

* Paper read by title before the Southern Medical Association, San Antonio, Texas, November 16, 1934.

CONGENITAL GONORRHEA OF THE FEMALE GENITALIA*†

Report of Three Cases

Bernard Notes, M.D.
and
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Washington

While working in the gynecological outpatient department of Children's Hospital, Washington, D. C., during the past 6 years, it was observed that occasionally, but regularly, there occurred cases of gonorrheal urethro-vulvovaginitis in children whose mothers had gonorrhea, and who noted the purulent exudate upon the genitals of their babies upon arrival home from the hospital after the usual lying-in period of 10 to 12 days. It seemed quite likely that the genitals of the female infants became infected in passing through the birth canal in a manner similar to the conjunctivae, and that the organisms were incubated and the exudate accumulated but that the infection did not make itself evident until after the mother had left the hospital (Notes).

Review of the literature revealed that Sharp noted a particular difficulty in demonstrating the gonococcus in children below 1 year of age, and Brown and Trachtenburg sometimes demonstrated the gonococcus 9 months after they first became suspicious of its presence. Instillation of silver salts has been used for some time to bring out latent gonorrhea. Pediatricians are all familiar with cases of gonorrheal urethro-vulvovaginitis which have been put down as diaper or ammoniacal dermatitis and passed up for months and even years. Cooperman reported an epidemic of 67 cases of gonorrheal sepsis of the newborn in which every female had vulvovaginitis in addition to other lesions. This necessitated the temporary shut-down of a maternity hospital. His cases were diagnosed from 6 days to a few weeks following birth. Epstein, and Noeggerath and Eckstein recommended the routine prophylaxis of breech-presentation females born of gonorrheal mothers with 1 to 2 per cent $AgNO_3$, or 3 to 4 per cent protargol into the vestibule of the vagina. Taussig in 1914 observed that 5 per cent of vulvovaginitis in children is acquired due to infection at birth and recommended the instillation of 1 drop of 2 per cent $AgNO_3$ in the vestibule of all newborn females from gonorrheal mothers. Wynkoop investigated the occurrence of gonorrhea of the genitals of newborn females, and over a period of about 5 years he obtained vulval smears at birth, on the fourth and on the thirteenth days of life in 1,150 newborn females and found no case of gonorrhea.

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* Read before the Society, October 17, 1934.

† From the department of Obstetrics and Gynecology, George Washington University School of Medicine.

On account of the regularity with which an occasional case occurred with similar history, it was determined to investigate along the line of Wynkoop's work, but to take intravaginal instead of vulval smears and to try to follow these newborn females for a longer period. Intravaginal smears were taken by us on the day of birth and on the day before discharge, usually the tenth postpartum day, in 500 consecutive newborn females in the Gallinger Municipal Hospital, Washington, D. C., during the past 2 years, and 3 cases were found in which mother and baby both had gonorrhea of the genitals.

REPORT OF CASES

Case 1: Freddie Belle Jones and infant. The mother had been treated intermittently (due to poor coöperation) for gonorrhea at the Social Hygiene Clinic of the Health Department of the District of Columbia for a number of years. As a 19-year old colored primipara she was admitted to Gallinger Municipal Hospital on October 28, 1932, and spontaneously delivered 5 minutes after admission of an 8 months', premature infant which had to be resuscitated. On the ninth postpartum day the mother left the hospital against advice, leaving the premature there. On the seventh day of life the infant showed evidence of conjunctivitis, which was proved to be gonorrheal on the ninth day. During this time she gradually became progressively weaker despite the usual supportive measures and feeding. A vaginal discharge was noted on the ninth day of life, and intravaginal smears were made regularly with negative results until the nineteenth day of life, when positive smears were obtained. The infant died the next day, but sections of the vagina and cervix showed no evidence of inflammation. This was to be expected, due to the short course of the infection and to the fact that the gonococcus, in common with the diphtheria bacillus, can flourish on an intact membrane.

Case 2: Juanita Roberts and infant. The mother had a normal, spontaneous labor at term 3 weeks prior to admission, June 20, 1933. Both mother and infant had left the hospital on the eleventh postpartum day, apparently in good condition. On re-admission (infant 21 days old), the mother complained of a skin eruption and colicky pains radiating downward from the left lumbar region. Cystoscopic examination showed definite evidence of pyelocystitis, and the cervical smear was positive for gonococci. On admission the infant was in good general condition but had a vaginal discharge which showed the gonococcus on the twenty-third day of life.

Case 3: Bessie Fitzgerald and infant. The mother had prenatal care at George Washington University Hospital in the prenatal clinic and had positive urethral and cervical smears for gonococcus there. She was admitted to Gallinger Municipal Hospital, December 25, 1933, in labor at term with transverse presentation. The infant was delivered by podalic version and extraction. The mother had evidence of puerperal infection with her temperature above 100.4°F. beginning the fourth postpartum day and lasting through the eleventh postpartum day. The infant was transferred to the pediatric service for gonorrheal conjunctivitis and apparent intracranial hemorrhage, but she was discharged on the thirteenth postpartum day in good condition and without evidence of gonorrheal urethro-vulvovaginitis. However, the mother stated that she noted purulent vaginal discharge in the child upon arrival at home. The infant was brought in to Children's Hospital when 2 months of age with typical gonorrheal urethro-vulvovaginitis, but a positive smear could not be obtained until she was 3 months of age.

SUMMARY AND CONCLUSIONS

Three cases of probable congenital gonorrhea of the genitalia of the newborn female are reported.

It is our belief that the gonococcus is picked up during passage through the infected birth canal, in a manner similar to the conjunctivae, and that it is incubated and an exudate accumulates but that the infection is not evident to cursory examination by the usual time that the mother leaves the hospital. This explains the ease with which these cases are missed and why more are not found.

It is recommended that all newborn females have prophylaxis of the vulva routinely, along with the eyes.

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Scarlet Fever—Streptococcus Sore-throat with a Rash—Gastric Upset with a Rash—Drug Rashes.* The etiology of the exanthemata is of importance to the family physician for it determines his procedure of treatment. It should also decide the question as to whether or not the illness is infectious and reportable to the Health Department. Streptococcus sore-throat or gastric upset, each with a rash are, from the viewpoint of health protection, clearly scarlet infections.

On investigation at the home of children who have appeared in school with peeling hands, it is frequently found that they had only a "stomach rash" and were absent from school merely a couple of days. An outbreak of scarlet fever consisting of at least 7 cases was traced to a diagnosis of "septic sore-throat with a rash" in the original case. It was neither reported nor isolated. The result was that there were 3 secondary cases among the contacts. One of these secondary cases was diagnosed as "Streptococcus sore-throat with a rash" which in the opinion of the doctor was neither scarlet fever nor a reportable disease. This patient, while still in the infectious stage, was sent to an institution where there developed 4 cases of scarlet fever.

An investigation of the history of non-reported cases, whether seen by a physician or not, usually reveals the cardinal symptoms of scarlet fever: fever, nausia or vomiting, sore-throat, rash, red tongue, and desquamation.

In order that confusion may be avoided and public health protected, the Health Department assumes responsibility by law for the isolation—without placard—of suspicious cases reported to the Department. Patients with indefinite symptoms are, by law, reported as "suspect" scarlet fever. This procedure clears the physician and puts the responsibility of isolation on the Department where it rightly belongs. The law is definite and provides that not only frank cases of scarlet fever but also "suspect" cases shall be reported. This "suspect" group includes cases of so-called stomach rash, septic sore-throat with a rash, as well as suspicious drug rashes. The reporting of these cases is the responsibility of the doctor; their isolation the responsibility of the Department: thus failure to report makes for embarrassment to both doctor and Department.

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* Communication from the Health Department, District of Columbia.

DOES THE CHILD HEALTH CONFERENCE INTERFERE WITH PRIVATE PRACTICE?*

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The term "child health conference" refers to a service open to the public for the examination of well babies and children of pre-school age. It is sometimes called a well-baby clinic or child-hygiene station.

This form of public welfare is now so well established in the United States and is in such demand by the public that in all probability it is here to stay. It is important, therefore, to determine the effect of the service upon medical practice and to discover a type which will minimize the objections of the doctors and still satisfy the demands of public-spirited citizens.

Montgomery County has passed through 2 years of experience with its child health conferences during which the practitioner's interest has been kept in mind. In the summer of 1932, shortly after a new health program was set up in the county, it was decided to try an arrangement in which each doctor's practice was taken as a separate unit. Instead of having the conference operated entirely by the health department, it was operated jointly by the health department and a local physician. Instead of receiving any pre-school child of the community, the conference received only those in the practice of one physician, the one operating the conference. By this arrangement the health department and the physician went into temporary partnership to provide a means for physically examining the children of the doctor's practice.

Conferences held on this plan were quite successful, and a number were held during the months which followed. While their chief advantage was to establish understanding between the health department and the doctors, several other advantages were derived. The physicians could see that the financially well-to-do children were not brought to conferences. The children received examinations by the same physician as would see them during illness. The conferences served as opportunities for the physicians to become acquainted with the administration of diphtheria toxoid. The health officer was relieved of considerable time because several physicians offered to take entire charge of their conferences. The correction of defects could be discussed immediately instead of at a hoped-for subsequent visit to the doctor's office. The parents' confidence in their own doctors was increased rather than shifted to a clinic physician.

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* Read before the Society, October 17, 1934.

At the same time, this type of conference presented a number of practical difficulties. In inviting parents and children to the conferences, nurses and volunteer workers had to spend much time separating the children of each community into groups so as to be able to invite only those in the practice of one physician. Frequently a small community would be encountered in which the practice was divided among several physicians. No doctor had enough children in it to justify a conference. Occasionally a physician could not be present at the time scheduled for his conference because of an emergency call.

As this plan was continued it became apparent that the chief advantage of the physician's type of conference was the mutual understanding established, and that this advantage was derived principally in the first conference held with each physician. Accordingly we began going back to a former plan of placing the conferences entirely in charge of the health department. As several doctors seemed desirous of continuing the new plan, however, a number of the physicians' conferences were continued. These were, in fact, conducted entirely by the physicians and the health department nurses.

In reverting to the type of conference in which the attending physician was not present or was present only as an occasional visitor, we endeavored to preserve the understanding which had been established between the doctors and the service. The doctor made a point to talk to each parent in the same way he would talk if the attending physician were sitting along side. All corrective work was arranged for through the family doctor. Care was taken to prevent the use of the conference by those able to pay.

A typical child-health conference as now conducted is held in a public school and occupies about 3 hours of the afternoon. As most communities of the county are small, it is not necessary to repeat a conference in one place for at least 6 months. The physician is either the county health officer or a practicing physician selected by the Health Committee of the County Medical Society. In the latter case a small fee is paid by the County or State. When a local physician is employed he never serves at a conference in the same locality in which he practices.

To avoid excessive waiting time, one group of parents is invited to bring in their children at the opening hour of the conference, another group is invited one hour later and another group two hours later. An average of 10 to 20 children is the usual number for an afternoon conference.

One of the nurses assists the physician and the other talks to each mother after her child is examined, discussing ways and means for the correction of defects and giving out educational literature. The physician examines each child in the presence of the parent, gives diphtheria immunization and smallpox vaccine if the parent consents, and talks to the mother about the child's condition and care. Alum-precipitated toxoid is used exclusively for diphtheria immunization because its administration in a single dose saves the trouble of holding a second conference.

As a rule, parents are asked to contribute 25 cents per child or 50 cents per family of over one child for the expenses of the work. This charge is, of course, waived if the parent is unable to pay. The money is turned over to the committee of volunteer workers, who start a fund for the correction of defects of children whose parents cannot pay. When a child is brought in by a parent who is considered able to pay for preventive services obtained from her own physician, the child is not turned away from the conference but is examined. The volunteer committee, however, makes a point to ask this parent not to come back to the next conference. So far, only about 1 such "unwelcome" child has appeared at each session. It is believed safer to examine this small number than to displease their parents and thus risk an argument as to whether they are legally entitled to examinations.

The success of the child-health conference depends largely upon the help of local volunteer workers. In addition to preliminary organization work, the volunteers bring in parents and children who have no means of transportation. At the conference they take histories and weigh and measure the children. Our county has made a special effort to organize efficient committees not only to have their assistance in the conferences themselves but to establish them as groups interested in the community's health service. Health departments need local groups in order to obtain the same kind of public support as education departments receive from parent-teacher associations.

Volunteer committees have in fact served another and perhaps even more important purpose. They have guided the policy of the conferences and prevented their misuse by families able to pay. A volunteer committee consists usually of at least one or two mothers of pre-school children who are not eligible for conferences because of their financial status. Sometimes all of these well-to-do parents are included in the committee. If no committee had existed, some of these same mothers might have been eager to bring their children to the conferences and nothing would have kept them away. By including them on the committee, however, their interest is diverted to the welfare of others. It is pointed out that lack of time prevents the holding of conferences for all children of the community; hence, more can be accomplished by limiting them to the children unable to pay. Besides, it is pointed out, the child who can have an examination by his own physician profits more because he is examined by the same doctor who visits him during illness. When this point of view is developed by the committee, any question of the citizen's legal right to the conference examination is avoided and the committee proves a valuable medium for establishing a policy beneficial to the public and the doctors.

In one community the volunteer committee went one step further and solved a difficult problem in a doctor's practice. The doctor had been disturbed by attempts of his clientele to obtain free obstetrical services. The trouble came partly from a mistaken impression that the county had set up a free service and partly from erroneous ideas of the unemployment relief program. The public health nurse purposely asked the wife of this doctor to serve on the local volunteer committee. Several meetings were held, and the doctor's problem was brought up by his wife and discussed in a frank and friendly way. The earnest group thinking of the committee soon got at the basis of the trouble and showed that a few changes in health department procedure could be utilized to correct it. This was a splendid piece of public health education, the health department being the principle one educated.

The experience in Montgomery County indicates that child-health conferences can be operated in rural towns without interfering with medical practice. Whether the same can be done elsewhere is another matter, but we feel strongly that wherever they are operated their success will depend on the care exercised by the health department in public relations. If the health department builds up contacts with the doctors and the public, its conferences will be successful. The contacts with the doctors must include the occasional presence of the doctors in the conferences preferably also their actual participation in the work. Contact with the public must likewise include the presence of groups of the public at the conferences and their active assistance in management and policy. This contact must be utilized to build up the right kind of public opinion, particularly to convince the public that the child-health conference will serve a better purpose if it is limited to the lower economic classes.

DISCUSSION

Dr. Hugh J. Davis: Dr. Ellicott, in his splendid paper, has described for us a most interesting experience which they have had in our neighboring community of Montgomery County. May I comment first on the excellent definition which Dr. Ellicott gave of a child-health conference as being "a service open to the public for the examination of well babies and children of pre-school age?" In addition it may be looked upon as an educational measure; one to make parents and the community child-health conscious. And may I emphasize his statement that "this kind of service is now so well established in the United States, and is in such demand by the public that in all probability it is here to stay." It might be added that it has come to stay as surely as regulation of quarantine in contagious diseases, a function delegated to the Health Department beyond a shadow of a doubt, or as surely as vaccination against smallpox. The so-called "physician's conferences" which Dr. Ellicott described are new and novel insofar as I know, and they seem to have met and removed one of the chief objections of the medical profession to child-health conferences, viz., that they take away private patients. The other complaint that patients able to pay for medical service attend these conferences seems to have been met by the same means and by the use of local volunteer workers. Whether such methods would be applicable in an urban community such as Washington is very much of a question. Dr. Ellicott does not tell us how it is determined who are the well-to-do. That is the big problem. However, Dr. Ellicott very clearly puts it, that if the Health Department builds up contacts with the doctors and the public its conferences will be successful, and that mutual understanding will be established. And, I might add, the conferences will be popular with the medical profession and the public. I can assure the members of this Society that visits by you to the conferences conducted by the Health Department of the District of Columbia would be welcome, and more, that for those truly interested in child health, the Health Department has authority to accept volunteer services. That, as I understand it, is what has been done in Montgomery County in the physicians' conferences. I hope Dr. Ellicott will make that point clear. He did state that at times a practicing physician was employed at a small fee, but that in such cases he never serves in the same locality in which he practices. The idea which Dr. Ellicott states they have developed of having the physician in charge of the conference conduct it as if the family or attending physicians were present is an excellent one and should be applied universally. Another point on which I would like to hear Dr. Ellicott talk is the law under which the child-health conferences are conducted. Under no construction which can be placed on the act providing funds for the child-hygiene service of the Health Department of the District of Columbia can well-to-do patients be excluded. The funds are limited in amount, and, therefore, only a limited number of cases can be served. As a result it has been the policy of the Health Department ever since the service was established to discourage attendance by those who could afford the services of a private physician. Dr. Ellicott stated that when such patients present themselves at the conferences they are examined in Montgomery County. We follow the same procedure, but we do not register those cases, nor do the nurses ask them to return or make follow-up home visits on such cases. The correction of defects was certainly expedited by Dr. Ellicott's "physicians' conferences." There is a great deal of time wasted and lost motion in following up cases in which defects have been found and getting them back to their physician for the necessary treatment, but a fact which the profession seems at times to overlook is the large number of cases of physical defects and illness discovered in the child-hygiene service which are referred back to the family physician, thus increasing his work rather than taking away private patients, for no treatment is given in the child-hygiene stations. That brings up a question upon which Dr. Ellicott did not touch, but I would like to ask him whether milk formulas are prescribed for the babies attending his conferences, and whether or not he considers that treatment in the sense that any prescription is treatment? Finally, Dr. Ellicott's concluding statement is most significant, "Contact with the public must be utilized to build up the right kind of public opinion, particularly to convince the public that the child-health conference will serve a better purpose if it is limited to the lower economic classes." Surely the public needs to be educated along this line. May we not hope now after these wise suggestions of Dr. Ellicott, that the child-hygiene service of the Health Department of the District of Columbia may have the support of the profession in Washington. Let us follow the leads he has given us and profit by them in order that we may have mutual understanding of the Health Department, the public and the medical profession.

Dr. P. A. McLendon: Thus far, Dr. Ellicott has avoided a great many of the controversial points which we have in the District of Columbia. A very fundamental one is the fact that his conferences have not been established on a permanent schedule. The parent, therefore, has not acquired the habit of attending these conferences to secure all necessary information for the care of her baby, or child. Furthermore, he established these conferences since the depression, when the physician has been more watchful of his practice. Before this time the physician had very little interest in the few cases taken from his practice. Those cases did not materially affect his income. At present these losses, with the additional loss in lessened fees, bring him face to face with a problem which seriously affects his income. Unfortunately this latter circumstance occurred here in Washington. And while there were individual complaints in the early years concerning this encroachment of the Welfare Clinics on private practice, no concerted action was taken to lessen these abuses. Many of the non-indigent came to use the clinic, because they were encouraged and because they secured good advice. Now the correction of this condition becomes a far more difficult problem than its prevention would have been. I trust Dr. Ellicott will pursue the latter course. We in Washington were not awake to the inroads this service would make in our practice in the years to come. A section of the Committee on Medical Economics of the Society has considered this matter, and it is significant that in the past year there has been 14 per cent less attendance at the clinics, with 4 per cent less registration of new cases. However, we must not be overly critical of the zeal of the welfare service in inducing parents to bring their infants and children to them. We as a profession must assume a great deal of the responsibility for this condition. When the medical profession began the scientific feeding of babies, they did not organize their own clinics, or

(Continued on page 315)

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA
Editorial Office, 1718 M Street

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Subscription $2.00 per year Single Copies, 25¢

THE HEALTH COLUMNIST

Food Fancies

Abroad in the land are individuals who profit by being exponents of food theory or theories, many of which are without sound scientific basis. Unfortunately these theories are accepted by the press for feature articles and by a large section of the public who have the attitude, "I saw in the paper so it must be true." In the acceptance and publication, newspapers, perhaps all unwittingly, lend appeal to systems or isms in diet that in truth are not panaceas to health at all but in certain instances to say the least are productive of malnutrition and its accompaniments. There are some people who cannot be moved from their position because of convictions, prejudices or settled illogical habits of thinking. However, it is thought desirable that the organized profession on every occasion present for public consumption sound medical opinion so that the vast majority of the reading public and indeed the newspaper editors themselves may avoid the luring sophistry of the cultist. Among the various tenets of certain food doctrines are the incompatability of proteins and carbohydrates, and the potentiality of proteins to induce hyperacidity and with it gastric ulcer and what-not. Rehfuss, in an article accepted by the Journal of the American Medical Association for its November 24, 1934, issue, gives results of feeding some 50 individuals, suffering from various chronic ills, hamburger steak alone, hamburger steak with potatoes, and hamburger steak with carbohydrates and fat. Careful gastric analyses were made. From the data it is stated: "There is evidence to show that even in diseased individuals of markedly different types there is no incompatability between protein and carbohydrate digestion." Again, a comparative study of the gastric acidity after ingestion of hamburger, hamburger and carbohydrates, hamburger, carbohydrates and fat, shows but a slight differential so far as the acidity is concerned. This unemotional presentation of data with logical inferences is substituted in the cultist's writings by statements that abound in generalities without citations of scientifically studied groups of particular cases. The best policy for the profession as we see it is not to be argumentative in approaching the cultist or those he has indoctrinated, but to be informative. Such unselfish work as is now being accomplished through radio and the activities of the Speakers' Bureau by our Committee on Public Information is productive of results.* As individuals let us spread the information yielded by such studies as presented by Rehfuss, whose painstaking effort is worthy of public acclaim.

ACTIVITIES OF SECTIONS

Section on Neurology and Psychiatry

Minutes of the Meeting Held November 1, 1934

The meeting was called to order at 8:15 P.M. by the chairman, Dr. Roger S. Cohen. Members present were: Drs. Roger S. Cohen, Walter Freeman, Loren B. T. Johnson, M. L. Townsend, I. J. Silverman, Antoine Schneider, H. D. Shapiro and 8 visitors. The minutes of the preceding meeting were read and approved.

Scientific Program

1. "Case Report: Hysteria." **Roger S. Cohen, M.D.**

A school-girl complained of pain, swelling, paralysis and contracture of the right hand. It came on suddenly during the writing of a letter and was obviously of hysterical type. The trouble showed a tendency to extend up the arm and also to the right lower limb and there developed in addition hysterical anesthesia of glove-like distribution. The patient was apparently of a stable disposition but she showed the "belle indifference" of the hysteric. There was no improvement with physiotherapy. The home situation was characterized by a jobless father, a complaining mother, a doddering grandmother and argumentative siblings. When improvement did not occur, the patient was sent away for 2 weeks and later tolerated the home situation better and recovered completely from her hysterical manifestations. She can write a good hand now and is only slightly nervous. The author emphasized the type of treatment which consisted in a pluralistic approach without too much emphasis either upon the symptomatic treatment or of the sex analysis. It appeared that the home situation was too heavy for the patient to bear and the extra school work precipitated the difficulties.

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* The time and title of the radio broadcasts are sent weekly to each member of the Society. Inform your clientele.

In discussion, **Dr. Loren B. T. Johnson** queried whether the removal from the home environment was to be considered anything but a palliative measure and asked whether she had obtained insight. **Dr. Cohen** replied that in changing the home environment and teaching the patient to disregard the "yammering" of the mother he had also made the girl realize the fact that she was imitating her mother.

Dr. Antoine Schneider asked what would happen if the girl were sent back to school, fearing that this might result in recrudescence. **Dr. Cohen** said that while this patient had not yet returned to school he considered the work secondary in importance, since psychometric examination showed a 14-year level of intelligence, surely within the power of a 15-year old girl to handle.

Dr. A. B. Evans suggested that the onset coincided with her going out with boys, that there might be a sexual factor that had not been uncovered, that palliative treatment would probably not reach the heart of the matter.

Dr. Isaac J. Silverman asked about the letter, laying emphasis upon the fact that the symptoms had come on suddenly during the writing of the letter and asking what she had in mind at that time. **Dr. Cohen** replied that the sex life had been investigated in a general way but nothing unusual had been disclosed, although the patient was rather frank in her discussion. The letter was to a girl-friend and had no sexual implications.

Dr. Benjamin Karpman emphasized the fact that many cures of hysteria had been reported, but that we had progressed since the thaumaturgy of Charcot and that to establish a permanent cure in these cases one must find the connection between the symptoms and disclose their mechanism. Dr. Karpman was certain that the sexual factor could be found if it were looked for and denied that there was anything very significant in Dr. Cohen's paper since many cases of similar character recover spontaneously. He asked finally how the author could correlate the home situation with the symptomatology.

Dr. Walter Freeman emphasized the danger of exploring the sex/life in a young individual, saying that the suggestions brought in by the physician upon the ideas of the patient might produce an over-emphasis on this side of the problem and lead to a tendency toward inversion of ideas and brooding upon the "facts of life." **Dr. John C. Reisinger** also agreed that patients would become too sex-conscious and that the mechanism was unimportant, provided that the patient was able to get along; the main point was to get well.

Dr. Robert Scott Lamb recalled the case of a war veteran whose sight was restored by a slap on the back from an osteopath and stated that the situation was often conducive to recovery in these patients but that a shock might be necessary. Spectacular acts often succeed where "plugging" fails.

Dr. Loren B. T. Johnson said that there was a tendency to approach children rather conservatively from the sexual standpoint but that this was often unjustified, since the patients were quite open in speaking of their sex activities and that to hush things up left many problems unsolved; particularly a dangerous area might be left and give trouble later. Patients should get insight in order to handle the mechanism; otherwise they would remain defenseless against other situations.

Dr. Benjamin Karpman stated that hysterics often have much sex pathology but that a tactful approach without suggestion on the part of the physician would bring their ideas to the surface and that by obtaining their sex history the patients would gain insight.

Dr. Robert Scott Lamb also thought that there was too much shrinking in talking with children about their sexual life and that modern children were apt to be "two jumps" ahead of their parents.

In closing, **Dr. Cohen** insisted that the sex life was not unusual in this case, that the mechanisms were quite on the surface and that from the practical standpoint it was much better to handle the situation in that way on account of the patient's whole situation and also on account of the fact that this was a clinic case and could not be subjected to detailed psychoanalysis.

2. "The Weight of the Endocrine Glands."

Walter Freeman, M.D.

The size of the endocrine glands seems to bear a rather restricted relationship to their function and there are many adventitious circumstances that render problematical any conclusions that are drawn from the examination of such a gross factor as weight. The glands investigated, some 1,300 sets, came from patients submitted to necropsy at Saint Elizabeths Hospital and were not comparable with any other series reported.

Several facts were disclosed in the detailed study: In the first place the size of the gland was often quite dependent upon the nutrition of the body, this applying particularly to the thymus and testes and to a less extent to the thyroid, suprarenals and uterus. The highest correlation with body weight occurred in regard to the suprarenals, with the pituitary a rather poor second. Sexual differences were found in most of the organs, especially significant in the pituitary. Racial differences were also marked in this gland and in the testes, the negro hypophysis and the white testis being considerably larger than their counterparts. Nothing very significant was learned from the epiphyses, parathyroids or ovaries. The prostate was larger in the white and the uterus larger in the colored. Age changes are especially marked in the ovaries, and indeed most of the ovaries in this study could be considered mere anatomical landmarks. Otherwise, there was scarcely an appreciable difference between the glands of individuals dying from 50 years of age and those dying after that age. However, the amount of parenchyma in the thymus, to judge from Hammar, underwent progressive decline from its acme in the quinquennial age group, 21 to 25 years. In emphasizing the difference between structure and function it was pointed out that the testes in the Japanese race are only half as large as those in the white race, while the biological function seems entirely adequate. The author concluded: "In defense of this method of approach to the study of mental disorders it may be said that if statistically significant differences are found in the glands of men who behave differently, even though due allowances are made for age, sex, race, weight and stature, then these differences will assume an importance far beyond the few grams, or milligrams even, that may separate their mean weights."

In discussion, **Dr. Robert Scott Lamb** pointed out that there was no place for study on normal cases and that there was need of an institute for investigation of the endocrine glands; undoubtedly animals should first be used and later executed criminals; coöperative investigation was essential.

Dr. Freeman pointed out that Roessle had investigated several hundred soldiers, killed in action, and that these were very satisfactory normals, while the criminals might not be so.

Dr. M. L. Townsend asked why the thymus underwent such rapid involution in response to infections. **Dr. Freeman** replied that this seemed to be a biological characteristic of the gland and that the thymus succumbed rapidly to other influences also, particularly the x-ray.

Dr. H. D. Shapiro announced that changes in the lunacy law were soon to be submitted to the Subcommittee on Mental Health, in which the Section was deeply interested.

SOCIETIES WITH LIMITED MEMBERSHIP

Louis Mackall Medical Society

The December program:

"Vascular Disease as it Affects the Specialties." Perry W. Gard, M.D. Discussion: George Dewey, M.D.

The present officers:

William W. Chase, *President*
Richard W. Wilkinson, *Secretary*

Medical Review Club

The November program:

"Review of the Literature of the Past Year in the Field of Gastroenterology." William M. Ballinger, M.D.

Election of officers resulted as follows:

Alan J. Chenery, *President*
Aubrey D. Fischer, *Vice President*
Robert M. Bolton, *Secretary-Treasurer*

Osler Society

Recent programs included:

1. "Differentiation of Certain Types of Thoracic Pain." James W. Esler, M.D.
2. "Case Report: Pancreatic Cyst." John H. Lyons, M.D.
3. "Roentgen Ray as an Aid to Diagnosis of Gastro-intestinal Bleeding." E. M. McPeak, M.D.
4. "Case Report: Uncommon Eruptive Fever." B. W. Leonard, M.D.

Drs. E. Kirby Smith and S. A. Alexander acted as hosts, respectively, at recent meetings.

The officers:

John Minor, *President*
F. R. Sanderson, *Vice President*
E. Kirby Smith, *Secretary-Treasurer*

THE AMERICAN SOCIETY FOR THE STUDY OF ARTHRITIS, INC.

Sessions were held at the Hotel Shoreham, this city, December 6–8, 1934, at 10 A.M. Round table discussions on the various phases of arthritis were on the program. At the banquet on the evening of Thursday, December 6, Dr. Wallace M. Yater made an address on the subject, "The Genera Practitioner's Concept of the Treatment of Arthritis." Dr. Reginald Burbank, president, gave an interesting résumé of his investigations of the arthritides, paying particular attention to vaccine therapy. His thesis was to de-sensitize rather than build up antibodies in the blood stream of the sufferer. Dr. Charles H. McEnerney, Secretary, acted as toastmaster, introducing the speakers. Guests included Drs. George Tully Vaughan, Sterling Ruffin, Charles S. White, William J. Mallory, William Earl Clark, William F. O'Donnell, James A. Gannon, J. Lawn Thompson, James A. Cahill, Jr., George W. McCoy, Thomas A. Groover, Paul J. O'Donnell, Thomas M. Foley, C. Augustus Simpson, A. B. Bennett, Coursen B. Conklin, Leo B. Norris, Walter A. Bloedorn.

THE ANNUAL SCIENTIFIC ASSEMBLY

The Annual Scientific Assembly of the Medical Society of the District of Columbia will be held May 1st and 2nd, 1935. The program will include, as in former years, formal papers.

Special emphasis will be placed on dry clinics which have proven to be one of the meeting's chief attractions. Our out-of-town guests will have special entertainment. A dinner with interesting features will bring the meetings to a close. Dr. Matthew White Perry, chairman of the Committee on Arrangements, has appointed subchairmen with committees as follows:

Attendance: Charles Stanley White, *chairman*; J. Lloyd Collins, *secretary*; W. O. Bailey, William B. Marbury, John D. Wynkoop, Jacob W. Bird, Herbert E. Martyn, H. A. Latane, Richard N. Sutton, Thomas E. Mattingly, Charles H. McEnerney.

Luncheon: Stuart O. Foster, *chairman*; B. W. Leonard, Alec A. Preece.

Program: James W. Esler, *chairman*; Worth B. Daniels, William H. Jenkins, Charles P. Howze, Fred R. Sanderson.

Surgical Clinics: W. Warren Sager, *chairman*; Benjamin F. Dean, Jr., Arch L. Riddick, William B. Marbury, Joseph P. Shearer, F. C. Fishback, Howard F. Strine.

Medical Clinics: Lewis C. Ecker, *chairman*; Charles R. L. Halley, John R. Cavanagh, Arnold McNitt, Samuel Dessoff.

Finance: Frank D. Costenbader, *chairman*; Raymond W. Murray, Harry F. Davies, R. Lomax Wells.

Printing: William W. Chase, *chairman*; Raymond W. Murray.

Halls & Exhibits: E. M. McPeak.

Banquet: Victor R. Alfaro, *chairman*; Earl R. Templeton, Joseph Horgan.

Entertainment: Preston Haynes, *chairman*; Don S. Knowlton, Don Johnson.

Registration: Coursen B. Conklin.

Public Meeting: William P. Argy, *chairman*; Joseph V. Kennedy, Paul J. O'Donnell, Robert A. Bier.

Women Physicians: A. Frances Foye, *chairman*; Alma Jane Speer, Margaret M. Nicholson, H. Gladys Kain, Elizabeth Chickering.

Woman's Auxiliary: H. S. Hoffman, *chairman*; Fofo Mezitis, A. Fife Heath.

Publicity: Herbert P. Ramsey, *chairman*; William M. Ballinger, *vice chairman*; P. S. Constantinople, John F. Preston.

DOES THE CHILD HEALTH CONFERENCE INTERFERE WITH PRIVATE PRACTICE

DISCUSSION

(*Continued from page 311*)

take the initiative in making available individual service to the infant. Lay organizations, and health departments organized the clinics, and the physician shouldered the burden of the work. The popularity and success of the clinic was entirely due to the professional ability of the physician in charge, but from the public the organization received the credit. In recent years the Parent-Teacher Associations are taking up another phase of the so-called health program, the summer roundup of the pre-school child. And up to this time we physicians have given cheerfully of our time and energy in examining these children. No physician is averse to group advice relative to child health. And in the case of the economically unfortunate, he believes in giving as much individual advice and attention as necessary. I am fairly certain that in recent years, however, the deserving poor have been deprived of their just rights and privileges by the "chiseling" upper classes. There are several questions that every physician who has children in his practice must seriously ask himself, and conscientiously answer before he criticizes the clinic:

1. Am I qualified to give the proper service requested by this parent?
2. Do I give this parent the amount of time and detailed advice which she needs?
3. Am I giving this parent better service than she can get at her neighborhood clinic?
4. Do I repeatedly advise all parents regarding diphtheria immunization and smallpox vaccination?
5. Can this parent afford to pay for the advice necessary, and time required? And if not
6. Can I afford to reduce or omit my usual fee in order to save this patient to the private physician?

Dr. Ellicott, in closing: In deciding which children are well-to-do we find that the local committee easily decides that question from its own knowledge of the families. In small rural communities the financial status of each family is fairly well known in the locality. In county health departments, no separate laws authorize or provide for pre-school health work and no separate personnel is assigned. This work is only one part of the general health program. We have no fixed rule for giving out formulae in conferences. We know the wishes of the physicians and give a formula to the parent if we know her doctor desires us to do so. Almost all doctors wish formulae given out to the type of families attending conferences. Formulae are given out in the form of cards printed by the State Department of Health. Finally, I would like to say that our main emphasis should be placed upon guiding public opinion. Each child-health conference is a center around which interest in child health develops. The health department, through local committees, can join hands with the public and place itself in a key position to utilize this interest. If this is done wisely, the public will come to the conclusion that pre-school conferences serve a better purpose when they are not patronized by well-to-do families.

DR. WILLIAM C. FOWLER RETIRES

Health Officer
Secretary-Treasurer, Commission on Licensure,
District of Columbia

Dr. Fowler* was given a token of regard and esteem at an assembly of his fellow workers and friends on the occasion of his 70th birthday, November 24, 1934.

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* Dr. Fowler has been an active member of the Medical Society of the District of Columbia since April 11, 1889.

Dr. Fowler's total service in the District Government amounted to 40 years. Mr. Melvin C. Hazen, President of the Board of Commissioners of the District of Columbia, spoke of their long association, stressing Dr. Fowler's accomplishment in gaining for the city of Washington a milk supply of the highest type. Other speakers made plain their appreciation of his fearlessness in the institution of his high ideals of office. After further addresses by other officials he was presented with a birthday cake containing 30 candles, one for each remaining year of a century.

Dr. Fowler, who previously was an executive officer in the Contagious Disease Service, succeeded Dr. William C. Woodward as health officer on August 1, 1918. Dr. E. J. Schwartz, who recently resigned as Assistant Health Officer, has been appointed health officer pro tem. until the formal appointment of a successor.

William C. Fowler, M.D.

NEW HEALTH OFFICER'S SELECTION

Committee Appointed to Assist

The Commissioners of the District of Columbia have announced the selection of a committee for the purpose of selecting a successor to Dr. Fowler. The committee personnel includes: Dr. William Gerry Morgan, Chairman; Dr. C. Willard Camalier, District of Columbia Dental Society; Dr. William H. Hough, Medical Society of the District of Columbia; Dr. Earl B. McKinley, George Washington University School of Medicine; Assistant Surgeon General W. F. Draper, United States Public Health Service; Dr. Numa P. G. Adams, Howard University School of Medicine; Dr. E. C. Wiggins, Medico-Chirurgical Society.

This committee, at a recent meeting, drew up a list of qualifications for the prospective incumbent that should provide the citizens of the Nation's capital with a health officer of proper caliber. In the deliberations of the committee are noted: "The head of the health department should be young enough to institute a long-time plan and follow it through; have had charge of a large city health department; have taken that department over under similar existing conditions of health status as now exist in Washington; have successfully delegated authority and responsibility to division heads and made each division an individual successful part of the whole department; have succeeded in reducing the tuberculosis, infant, diphtheria and typhoid death rates; have successfully demonstrated a program of popular health instructions; have demonstrated his ability to coöperate with and use the services and facilities of the medical and dental professions and coördinate the services and facilities of his department with those privately existing for interrelating purposes."

The apparent willingness of the local citizens' organizations and the Commissioners themselves to coöperate with and be guided by organized medicine in the important matter of public health means much to the nation's capital.

PROGRAM, SOCIETY ACTIVITIES

January, 1935

Wednesday, January 9:

Joint meeting with the Washington Urological Society. William P. Herbst, Jr., President; Ivy A. Pelzman, Secretary.

"Experimental and Practical Clinical Observations on Urinary Lithiasis." Charles Higgins, M.D., of the Crile Clinic, and Lynwood Keyser, M.D., Roanoke, Virginia.

Both of these men have been engaged in outstanding research and practical work in the field.

Wednesday, January 16:

1. "Evaporated Milk and the Child Welfare Infant." Charles A. Schutz, M.D.
2. "The Rapid Diagnosis and Serum Treatment of Lobar Pneumonia." Harry F. Dowling, M.D.
3. "Industrial Medicine and Medical Ethics." W. Cabell Moore, M.D.

Wednesday, January 23:

1. "The Early Clinical Recognition of Adrenal Insufficiency Resulting from Partial or Total Atrophy of the Adrenal Glands." G. L. Weller, Jr., M.D.
2. "A Further Report on the Dissociation of the Thyroid from the Sympathetic Nervous System and Reduction of the Blood Supply to the Thyroid in the Treatment of Angina Pectoris." James Alexander Lyon, M.D., and Edmund Horgan, M.D.
3. "The Hygiene of Hay Fever." Harry S. Bernton, M.D.

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